Moving Rehabilitation Forward™

Vectra GENISYS®

User Manual

Operation & Installation Instructions for:

Therapy Systems

2761- Two Channel Combination System
2789- Four Channel Combination System
2764- Two Channel Electrotherapy System
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2875K- Two Channel Electrotherapy System with Cart- no sEMG
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Optional Equipment

2775- Therapy System Cart (Unassembled)
2775ASY- Therapy System Cart (Assembled)
2767- NiMH Battery Module
2799- Dual Channel sEMG Module
27508 and 27079- User Remote Controls
2781- Channel 3/4 Electrotherapy Module

CHATTANOOGA GROUP

ISO 13485 CERTIFIED

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FOREWORD

This manual has been written for the users of the Vectra Genisys® Therapy Systems. It contains general information on the operation, precautionary practices, and maintenance information. In order to maximize use, efficiency, and the life of the system, please read this manual thoroughly and become familiar with the controls, as well as the accessories before operating the system.

This manual contains general safety, operating, maintenance, and care instructions as well as installation instructions for the optional Therapy System Cart, Channel 3/4 Electrotherapy, NiMH Battery, Laser and Dual Channel sEMG Modules for the users of the Vectra Genisys Therapy two channel electrotherapy and combination systems.

Specifications put forth in this manual were in effect at the time of publication. However, owing to Chattanooga Group's policy of continual improvement, changes to these specifications may be made at any time without obligation on the part of Chattanooga Group.

Before administering any treatment to a patient, the users of this equipment should read, understand and follow the information contained in this manual for each mode of treatment available, as well as the indications, contraindications, warnings and precautions. Consult other resources for additional information regarding the application of electrotherapy and ultrasound.

PRODUCT DESCRIPTION

The Vectra Genisys Therapy Systems are two channel electrotherapy and combination systems with the option of adding additional channels of electrotherapy by installation of the optional Channel 3/4 Electrotherapy Module. Other optional modality modules are available for separate purchase and may be installed by the end user.

Stay current with the latest clinical developments in the field of electrotherapy, ultrasound, laser therapy, sEMG and sEMG + Stim. Observe all applicable precautionary measures for treatment.

Keep informed of appropriate indications and contraindications for the use of electrotherapy, ultrasound, sEMG and sEMG+Stim.

This equipment is to be used only under the prescription and supervision of a licensed practitioner.

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SAFETY PRECAUTIONS

PRECAUTIONARY DEFINITIONS

The precautionary instructions found in this section and throughout this manual are indicated by specific symbols. Understand these symbols and their definitions before operating this equipment. The definition of these symbols are as follows:

Caution

Text with a "CAUTION" indicator will explain possible safety infractions that could have the potential to cause minor to moderate injury or damage to equipment.

Warning

Text with a "WARNING" indicator will explain possible safety infractions that will potentially cause serious injury and equipment damage.

Danger

Text with a "DANGER" indicator will explain possible safety infractions that are imminently hazardous situations that would result in death or serious injury.

Dangerous Voltage

Text with a "Dangerous Voltage" indicator serves to inform the user of possible hazards resulting in the electrical charge delivered to the patient in certain treatment configurations of TENS waveforms.

Corrosive

Text with a "Corrosive" indicator will explain possible safety infractions if the chemical components of the battery are exposed to air, skin or other materials.

Spontaneous Combustion

Text with a "Spontaneous Combustion" indicator will explain possible safety infractions that could create conditions for a spontaneous combustion if the material is mishandled and not disposed of properly.

Biohazardous Materials

Text with a "Biohazard" indicator serves to inform the user of possible hazards resulting in improper handling of components and accessories that have come in contact with bodily fluids.

Non-Ionizing Electromagnetic Radiation

Text with a "Non-Ionizing Electromagnetic Radiation" indicator informs the user of possible hazards resulting from elevated, potentially dangerous, levels of non-ionizing radiation.

NOTE: Throughout this manual, "NOTE" may be found. These Notes are helpful information to aid in the particular area or function being described.

SAFETY PRECAUTIONS

⚠ CAUTION

- Read, understand, and practice the precautionary and operating instructions. Know the limitations and hazards associated with using any electrical stimulation or ultrasound device. Observe the precautionary and operational decals placed on the unit.
- DO NOT operate this unit in an environment where other devices are being used that intentionally radiate electromagnetic energy in an unshielded manner.
- Ultrasound should be routinely checked before each use to determine that all controls function normally, especially that the intensity control does properly adjust the intensity of the ultrasonic power output in a stable manner. Also, determine that the treatment time control does actually terminate ultrasonic power output when the timer reaches zero.
- DO NOT use sharp objects such as a pencil point or ballpoint pen to operate the buttons on the control panel.
- This unit should be operated, transported and stored in temperatures between 59° F and 104° F (15° C and 40° C), with Relative Humidity ranging from 30%-60%.
- Handle Ultrasound Applicator with care. Inappropriate handling of the Ultrasound Applicator may adversely affect its characteristics.
- Before each use, inspect Ultrasound Applicator for cracks, which may allow the ingress of conductive fluid.

⚠ CAUTION

- Inspect Applicator cables and associated connectors before each use.
- The Vectra Genisys Therapy System is not designed to prevent the ingress of water or liquids. Ingress of water or liquids could cause malfunction of internal components of the system and therefore create a risk of injury to the patient.
- This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. Harmful interference to other devices can be determined by turning this equipment on and off. Try to correct the interference using one or more of the following: reorient or relocate the receiving device, increase the separation between the equipment, connect the equipment to an outlet on a different circuit from that to which the other device(s) are connected and consult the factory field service technician for help.
- Nylatex® Wraps contain dry natural rubber and may cause allergic reactions in patients with allergies to latex.
- Use of parts or materials other than Chattanooga Group's can degrade minimum safety.

SAFETY PRECAUTIONS

⚠ WARNING

- U.S.A. Federal Law restricts these devices to sale by, or on the order of, a physician or licensed practitioner. This device should be used only under the continued supervision of a physician or licensed practitioner.
- Make certain the unit is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes.
- Care must be taken when operating this equipment around other equipment. Potential electromagnetic or other interference could occur to this or to the other equipment. Try to minimize this interference by not using other equipment in conjunction with it.
- The safety of TENS waveforms for use during pregnancy or birth has not been established.
- TENS is not effective for pain of central origin. (This includes headache.)
- TENS should be used only under the continued supervision of a physician or licensed practitioner.
- TENS waveforms have no curative value.
- TENS is a symptomatic treatment, and as such, suppresses the sensation of pain which would otherwise serve as a protective mechanism.
- The user must keep the device out of the reach of children.
- Electronic monitoring equipment (such as ECG monitors and ECG alarms) may not operate properly when TENS stimulation is in use.

⚠ WARNING

- Powered muscle stimulators should be used only with the leads and electrodes recommended for use by the manufacturer.
- In the event that an Error message or Warning appears beginning with a 2 or 3, immediately stop all use of the system and contact the dealer or Chattanooga Group for service. Errors and Warnings in these categories indicate an internal problem with the system that must be tested by Chattanooga Group or a Field Service Technician certified by Chattanooga Group before any further operation or use of the system. Use of a system that indicates an Error or Warning in these categories may pose a risk of injury to the patient, user or cause extensive internal damage to the system.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure to ultrasonic energy.
- Before administering any treatment to a patient you should become acquainted with the operating procedures for each mode of treatment available, as well as the indications, contraindications, warnings and precautions. Consult other resources for additional information regarding the application of Electrotherapy and Ultrasound.
- To prevent electrical shock, disconnect the unit from the power source before attempting any maintenance procedures.
- Keep electrodes separated during treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.
- Long term effects of chronic electrical stimulation are unknown.

SAFETY PRECAUTIONS

⚠ WARNING

- Stimulation should not be applied over the anterior neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing.
- Stimulation should not be applied transthoracically in that the introduction of electrical current into the heart may cause cardiac arrhythmia.
- Stimulation should not be applied over swollen, infected, and inflamed areas or skin eruptions, e.g., phlebitis, thrombophlebitis, varicose veins, etc.
- Stimulation should not be applied over, or in proximity to, cancerous lesions.
- Output current density is related to electrode size. Improper application may result in patient injury. If any question arises as to the proper electrode size, consult a licensed practitioner prior to therapy session.
- The Vectra Genisys Therapy System optional modules and associated accessories are designed for use only with the Chattanooga Group Vectra Genisys Electrotherapy and Combination Therapy Systems.
- Remove the Ultrasound or Laser Applicator by pulling the cable connector only. DO NOT remove by pulling the cable.

SAFETY PRECAUTIONS

⚠ DANGER

- Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.
- Patients with an implanted neurostimulation device must not be treated with or be in close proximity to any shortwave diathermy, microwave diathermy, therapeutic ultrasound diathermy or laser diathermy anywhere on their body. Energy from diathermy (shortwave, microwave, ultrasound and laser) can be transferred through the implanted neurostimulation system, can cause tissue damage, and can result in severe injury or death. Injury, damage or death can occur during diathermy therapy even if the implanted neurostimulation system is turned "off."

- Handle, clean and dispose of components and accessories that have come in contact with bodily fluids according to National, Local and Facility rules, regulations and procedures.

⚠ DANGER

- NiMH Batteries contain Class E Corrosive materials. In the event of battery cell rupture or leakage, handle Battery Module wearing neoprene or natural rubber gloves. Contents of a ruptured or leaking battery can cause respiratory irritation. Hypersensitivity to nickel can cause allergic pulmonary asthma. Contents of cell coming in contact with skin can cause skin irritation and/or chemical burns.

- Never, under any circumstances, open the Battery Module housing or cells. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. There can be a delay between exposure to air and spontaneous combustion.
- Charge the Battery Module according to the instructions found in this manual. Never attempt to charge the Battery Module on any other charging mechanism.
- Use the Battery Module only with the Vectra Genisys Therapy Systems.
- Do not reverse the polarity of the Battery Module. Doing so can increase the individual cell temperature and cause cell rupture or leakage.
- Never dispose of Battery Module in fire. Never short circuit the battery. The battery may explode, ignite, leak or get hot causing serious personal injury.
- Dispose of NiMH batteries according to national, state and local codes and regulations.

SAFETY PRECAUTIONS

ELECTROTHERAPY INDICATIONS, CONTRAINDICATIONS, AND ADVERSE EFFECTS

Indications for VMS, VMS Burst, Russian, TENS, High Voltage Pulsed Current (HVPC), Interferential, and Premodulated Waveforms

- Relaxation of muscle spasms
- Prevention or retardation of disuse atrophy
- Increase local blood circulation
- Muscle re-education
- Maintaining or increasing range of motion

Additional Indications for Microcurrent, Interferential, Premodulated, VMS™, VMS™ Burst, and TENS Waveforms

- Symptomatic relief and management of chronic, intractable pain
- Post-traumatic acute pain
- Post-surgical acute pain

Indications for DC (Direct Current) Mode

- Relaxation of muscle spasm

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- Stimulation should not be applied over swollen, infected, inflamed areas or skin eruptions (e.g. phlebitis, thrombophlebitis, varicose veins, etc.).
- Other contraindications are patients suspected of carrying serious infectious disease and or disease where it is advisable, for general medical purposes, to suppress heat or fevers.
- Electrode placements must be avoided that apply current to the carotid sinus region (anterior neck) or transcerebrally (through the head).
- Safety has not been established for the use of therapeutic electrical stimulation during pregnancy.
- Powered muscle stimulators should not be used on patients with cardiac demand pacemakers.
- There should not be any use of TENS waveforms on patients with cardiac demand pacemakers.

SAFETY PRECAUTIONS

ELECTROTHERAPY INDICATIONS, CONTRAINDICATIONS, AND ADVERSE EFFECTS (CONTINUED)

Additional Precautions

- Caution should be used for patients with suspected or diagnosed heart problems.
- Caution should be used for patients with suspected or diagnosed epilepsy.
- Caution should be used in the presence of the following:
  - When there is a tendency to hemorrhage following acute trauma or fracture.
  - Following recent surgical procedures when muscle contraction may disrupt the healing process.
  - Over a menstruating or pregnant uterus.
  - Over areas of the skin which lack normal sensation.
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by using an alternative conductive medium or an alternative electrode placement.
- Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
- Powered muscle stimulators should be used only with the lead wires and electrodes recommended for use by the manufacturer.
- With TENS waveforms, isolated cases of skin irritation may occur at the site of electrode placement following long-term application.
- The effectiveness of TENS waveforms is highly dependent upon patient selection by a person qualified in pain management.

Adverse Effects

- Skin irritation and burns beneath the electrodes have been reported with the use of powered muscle stimulators.
- Potential adverse effects with TENS are skin irritation and electrode burns.

sEMG INDICATIONS

Indications- Surface EMG

To determine the activation timing of muscles for:

- Retraining of muscle activation
- Coordination of muscle activation
- An indication of the force produced by muscle for control and maintenance of muscle contractions
- Relaxation muscle training
- Muscle re-education

SAFETY PRECAUTIONS

sEMG + STIM INDICATIONS, CONTRAINDICATIONS AND ADVERSE EFFECTS

Indications- sEMG + Stim using VMS™, Symmetrical Biphasic (TENS), Asymmetrical Biphasic (TENS), or Russian waveforms

- Stroke rehab by muscle re-education
- Relaxation of muscle spasms
- Prevention or retardation of disuse atrophy
- Increase local blood circulation
- Muscle re-education
- Maintaining or increasing range of motion

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- Stimulation should not be applied over swollen, infected, inflamed areas, or skin eruptions (e.g. phlebitis, thrombophlebitis, varicose veins, etc.).
- Other contraindications are patients suspected of carrying serious infectious disease and/or disease where it is advisable, for general medical purposes, to suppress heat or fevers.
- Electrode placements must be avoided that apply current to the carotid sinus region (anterior neck) or transcereberally (through the head).
- Safety has not been established for the use of therapeutic electrical stimulation during pregnancy.
- Powered muscle stimulators should not be used on patients with cardiac demand pacemakers.
- There should not be any use of TENS waveforms on patients with cardiac demand pacemakers.

sEMG + STIM INDICATIONS, CONTRAINDICATIONS AND ADVERSE EFFECTS (CONTINUED)

Additional Precautions

- Caution should be used for patients with suspected or diagnosed heart problems.
- Caution should be used for patients with suspected or diagnosed epilepsy.
- Caution should be used in the presence of the following:
  - When there is a tendency to hemorrhage following acute trauma or fracture.
  - Following recent surgical procedures when muscle contraction may disrupt the healing process.
  - Over a menstruating or pregnant uterus.
  - Over areas of the skin which lack normal sensation.
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by using an alternative conductive medium or an alternative electrode placement.
- Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
- Powered muscle stimulators should be used only with the lead wires and electrodes recommended for use by the manufacturer.
- With TENS waveforms, isolated cases of skin irritation may occur at the site of electrode placement following long term application.
- The effectiveness of TENS waveforms is highly dependent upon patient selection by a person qualified in the management of pain patients.

Adverse Effects

- Skin irritation and burns beneath the electrodes have been reported with the use of powered muscle stimulators.
- Potential adverse effects with TENS are skin irritation and electrode burns.

ULTRASOUND INDICATIONS AND CONTRAINDICATIONS

Indications for Ultrasound

Application of therapeutic deep heat for the treatment of selected sub-chronic and chronic medical conditions such as:

- Relief of pain, muscle spasms and joint contractures
- Relief of pain, muscle spasms and joint contractures that may be associated with:
  - Adhesive capsulitis
  - Bursitis with slight calcification
  - Myositis
  - Soft tissue injuries
  - Shortened tendons due to past injuries and scar tissues
- Relief of sub-chronic, chronic pain and joint contractures resulting from:
  - Capsular tightness
  - Capsular scarring

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- Other contraindications are patients suspected of carrying serious infectious disease and disease where it is advisable for general medical purposes to suppress heat or fevers.
- This device should not be used over or near bone growth centers until bone growth is complete.
- This device should not be used over the thoracic area if the patient is using a cardiac pacemaker.
- This device should not be used over a healing fracture.
- This device should not be used over or applied to the eye.
- This device should not be used over a pregnant uterus.
- This device should not be used on ischemic tissues in individuals with vascular disease where the blood supply would be unable to follow the increase in metabolic demand and tissue necrosis might result.

Additional Precautions

- Additional precautions should be used when ultrasound is used on patients with the following conditions:
- Over an area of the spinal cord following:
  - Laminectomy, i.e., when major covering tissues have been removed
  - Over anesthetic areas
  - On patients with hemorrhagic diatheses

NOMENCLATURE

VECTRA GENISYS ELECTROTHERAPY AND COMBINATION THERAPY SYSTEMS

Two Channel Electrotherapy System

1. Two Channel Electrotherapy System
2. User Interface **(See Page 15)**
3. Front Access Panel
4. Rear Access Panel
5. Patient Data Card and sEMG Data Card access port
6. Multimedia Card (MMC) access port

Two Channel Combination System

1. Two Channel Combination System
2. User Interface **(See Page 15)**
3. Front Access Panel
4. Rear Access Panel
5. Patient Data Card and sEMG Data Card access port
6. Multimedia Card (MMC) access port
7. Ultrasound Applicator (5cm^2 shown)

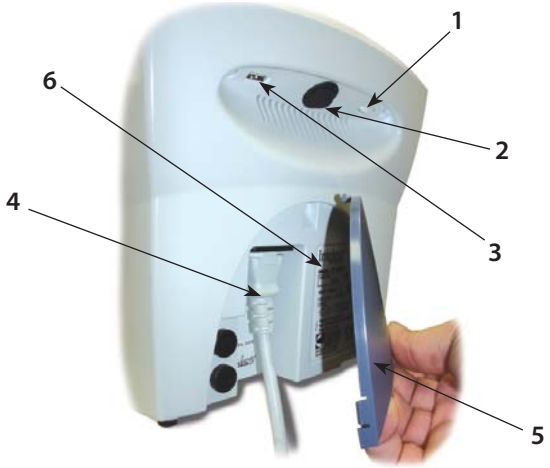
NOMENCLATURE

VECTRA GENISYS ELECTROTHERAPY AND COMBINATION THERAPY SYSTEMS (CONTINUED)

Front Access Panel

1. Front Access Panel Lanyard
   NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.
2. Operator Remote Control Connector
3. Patient Interrupt Switch Connector
4. Channel 1 Lead Wire Connector
5. Channel 2 Lead Wire Connector
6. Microcurrent Probe Connector
7. Ultrasound Applicator Connector

Rear Access Panel



1. Screen Contrast Control (Not functional on Color Systems)
2. Power On/Off Switch
3. Technical Maintenance Port
4. Mains Power Cord
5. Rear Access Panel
6. Serial Decal

NOMENCLATURE

USER INTERFACE

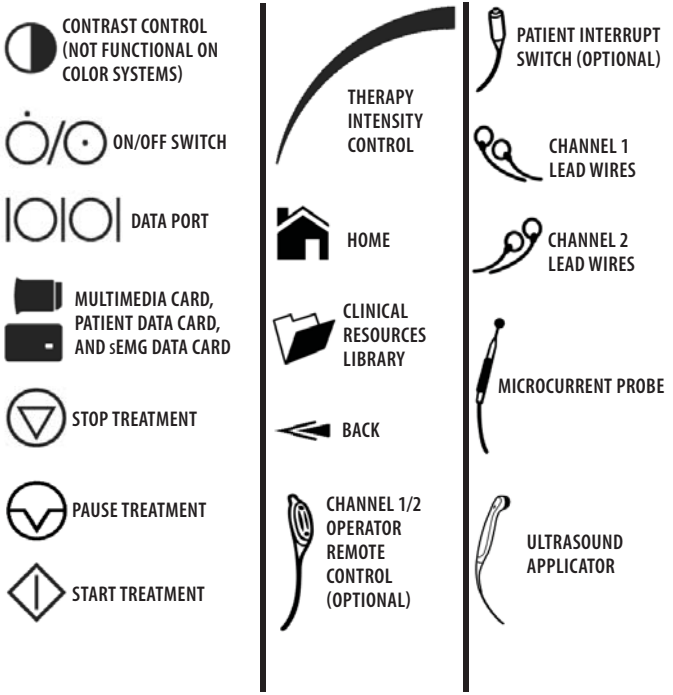
1. Rear Access Panel **(See Page 14)**
2. User Interface
3. Ultrasound LED Coupling Indicator (Combination only)
4. Ultrasound Applicator- 5 cm^2 Standard. (Optional 1 cm^2, 2 cm^2 and 10 cm^2) applicators available (Combination only)
5. Intensity Knob
6. Cable and Lead Wire Hook
7. Front Access Panel **(See Page 14)**
8. Start Button
9. Pause Button
10. Stop Button
11. Clinical Resources Library Button
12. Home Screen Button
13. Back Button
14. Patient Data Card and sEMG Data Card Port
15. Multimedia Card (MMC) Port
16. User Set Up and Parameter Control Buttons

NOMENCLATURE

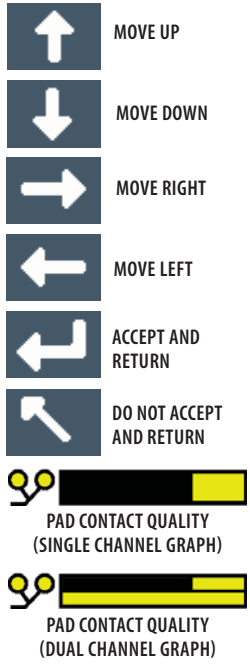
SYMBOL DEFINITIONS

Below are the definitions for all of the symbols used in the Vectra Genisys hardware and software. Study and learn these symbols before any operation of the system.

System Hardware Symbols

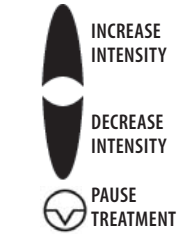


System Software Symbols

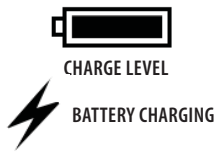


Optional Module and Accessory Symbols

Operator Remote

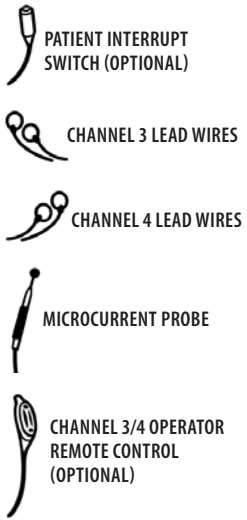


Battery Module



Patient Interrupt Switch

Channel 3/4 Electrotherapy Module


PATIENT INTERRUPT SWITCH (OPTIONAL)
CHANNEL 3 LEAD WIRES
CHANNEL 4 LEAD WIRES
MICROCURRENT PROBE
CHANNEL 3/4 OPERATOR REMOTE CONTROL (OPTIONAL)

NOMENCLATURE

Below are the definitions for all of the unique terminology used throughout this manual. Study these and become familiar with these terms for ease of system operation and familiarization with the components and control functionality of the Vectra Genisys Therapy System. Some of these terms and definitions refer to a specific button or control on the system. Refer to **page 16** for Symbol Definitions.

GENERAL TERMINOLOGY

Back Button
The dedicated button on the Main unit, below the display, that each time pressed takes the user back one screen at a time.

Previous Page Button
The button used in some modalities and functions that will take the user back one page when reading multiple pages of text.

UP and DOWN Arrows
Controls used in various modality parameter screens to navigate or change a value up or down within the parameter.

Electrotherapy
Refers to the Electrical muscle or nerve Stimulation modalities of the system.

System
The primary system with all controls and functions.

Module
Any optional modular modality component designed for installation onto the System.

sEMG
Abbreviation for the Surface Electromyography modality.

sEMG + Stim
Abbreviation for Surface Electromyography with Triggered Electrical Stimulation modality.

ULTRASOUND

1. Sound Head
That component of the Applicator that makes contact with the patient during Ultrasound or Combination therapy.

2. Applicator
The assembly that connects to the System and incorporates the Sound Head.

3. Coupling LED
The component of the Applicator which indicates if the Sound Head is Coupled or Uncoupled on the the treatment area.

SPECIFICATIONS

SYSTEM SPECIFICATIONS AND DIMENSIONS

Width
Combination System ..... 11.375 in (28.9 cm)
Electrotherapy System ..... 9.750 in (24.8 cm)

Depth (Combination and Electrotherapy System) ..... 12.750 in (32.4 cm)

Height (Combination and Electrotherapy System) ..... 8.750 in (22.2 cm)

Standard Weight
Two Channel Combination System. ..... 7 lbs (3.2 kg)
Two Channel Electrotherapy System ..... 6 lbs (2.7 kg)

Power (Combination and Electrotherapy Units)
Input ..... 100 - 240 V - 1.0 A, 50/60 Hz
Output (Internal Power Supply) ..... +24 V, 7.3 A
Electrical Class ..... CLASS I
Mode of Operation ..... Continuous

Electrical Type (Degree of Protection)
Ultrasound ..... TYPE B
Electrotherapy and sEMG ..... TYPE BF

Regulatory Compliance
UL/IEC/EN 60601-1
IEC/EN 60601-1-2
IEC 60601-2-5
IEC 60601-2-10

NOTE: All waveforms except High Voltage Pulsed Current (HVPC) have been designed with a 200mA current limit. VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified, and listed to peak, not peak to peak.

DESCRIPTION OF DEVICE MARKINGS

Refer to Instruction Manual/Booklet .....

Equipment capable of delivering output values in excess of 10 mA r.m.s. or 10V r.m.s. averaged over any period of 5 s .....

Classified by Intertek Testing Services NA Inc. .....
9700675

Dangerous Voltage .....

SPECIFICATIONS

WAVEFORM SPECIFICATIONS

IFC- Interferential (Traditional 4 Pole)

Interferential Current is a medium frequency waveform. Current is distributed through two channels (four electrodes). The currents cross each other in the body at the area requiring treatment. The two currents interfere with each other at this crossing point, resulting in a modulation of the intensity (the current intensity increases and decreases at a regular frequency).

Output Mode	Electrodes
Output Intensity	0-100 mA (CC) 0-100 V (CV)
Carrier Frequency	2,500, 4,000 and 5,000 Hz
Beat Frequency (Sweep Off)	1-200 Hz
Sweep Time (Fixed)	15 sec
Sweep Low Beat Frequency	1-199 Hz
Sweep High Beat Frequency	1-200 Hz
Vector Scan	Off, Manual, 40% and 100%
Treatment Time	1-60 Minutes
Mode Selection	CC or CV*
Available on Channel	1&2, 3&4 Option

*CC= Constant Current
CV= Constant Voltage

TENS- Asymmetrical Biphasic

The Asymmetrical Biphasic waveform has a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue. This waveform is often used in TENS devices. Because of its short pulse, the patient typically tolerates the current well, even at relatively high intensities.

Output Mode	Electrodes
Output Intensity	0-110 mA (CC) 0-110 V (CV)
Phase Duration	20-1,000 µsec
Frequency	1-250 Hz
Mode Selection	CC or CV*
Burst Frequency	0-10 bps
Frequency Modulation	0-250 Hz
Amplitude Modulation	Off, 40%, 60%, 80% and 100%
Cycle Time	4/4, 4/8, 7/7, 5/5 4/12, 10/10, 10/20, 10/30, 10/50
Treatment Time	1-60 min
Available on Channels	1 & 2, 3 & 4 Option

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (CONTINUED)

TENS- Symmetrical Biphasic

The Symmetrical Biphasic waveform has a short pulse duration and is capable of strong stimulation of nerve fibers in the skin and in muscle. This waveform is often used in portable muscle stimulation units, and some TENS devices. Because of its short pulse duration, the patient typically tolerates the current well, even at relatively high intensities.

Output Mode.....Electrodes
Output Intensity.....0-80 mA (CC)
0-80 V (CV)
Phase Duration.....20-1000 µsec
Frequency.....1-250 Hz
Mode Selection.....CC or CV*
Burst Frequency.....0-10 bps
Frequency Modulation.....0-250 Hz
Amplitude Modulation.....Off, 40%, 60%, 80% and 100%
Cycle Time.....4/4, 4/8, 7/7, 5/5 4/12, 10/10, 10/20, 10/30, 10/50
Treatment Time.....1-60 min
Available on channels.....1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

Microcurrent

Microcurrent is a monophasic waveform of very low intensity that closely simulates the electrical current generated by the human body. Microcurrent can be applied via electrodes or probe.

Output Mode.....Electrodes or Probe
Output Intensity.....5-1000 µA
Polarity.....Positive, Negative or Alternating
Treatment Time.....1-60 Minutes
1-60 Seconds (Probe)
Carrier Frequency.....0.1- 1000 Hz
Duty Cycle (Fixed).....50%
Ramp (Fixed).....1 second
Available on channels.....1 & 2, 3 & 4 Option

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (CONTINUED)

Premodulated (Traditional 2 Pole IFC)

Premodulated Current is a medium frequency waveform. Current comes out of one channel (two electrodes). The current intensity is modulated: it increases and decreases at a regular frequency (the Amplitude Modulation Frequency).

Output Mode.....Electrodes
Output Intensity.....0-100 mA (CC)
0- 100 V (CV)
Carrier Frequency (Fixed).....2,500 Hz
Beat Frequency (Sweep Off).....1-200 Hz
Sweep Time (Fixed).....15 seconds
Sweep Low Beat Frequency.....1-199 Hz
Sweep High Beat Frequency.....2-200 Hz
Vector Scan.....Off, Manual, 40%, and 100%
Mode Selection.....CC or CV*
Treatment Time.....1-60 Min
Available on Channel.....1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

High Voltage Pulsed Current (HVPC)

The High Voltage Pulsed Current (HVPC) has a very brief pulse duration characterized by two distinct peaks delivered at high voltage. The waveform is monophasic (current flows in one direction only). The high voltage causes a decreased skin resistance making the current comfortable and easy to tolerate.

Output Mode.....Electrodes or Probe
Output Intensity.....0-500 V
Polarity.....Positive or Negative
Ramp.....0.5 sec, 1 sec, 2 sec, 5 sec
Display.....Peak Current or Volts
Sweep.....Continuous, 80/120 pps, 1/120 pps, 1/10 pps
Frequency.....10-120 pps
Cycle Time.....Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Treatment Time.....1-60 Min
Anti-Fatique.....Off or On
Available on Channels.....1 & 2, 3 & 4 Option

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (CONTINUED)

VMS™

VMS is a symmetrical biphasic waveform with a 100 µsec interphase interval. Because the pulse is relatively short, the waveform has a low skin load, making it suitable for applications requiring high intensities, such as in muscle strengthening protocols.

Output Mode	Electrodes
Output Intensity	0-200 mA(CC) 0- 200 V (CV)
Channel Mode	Single, Reciprocal, Co-Contract
Phase Duration	20-400 µsec
Mode Selection	CC or CV*
Anti-Fatigue	Off or On
Set Intensity	Individual Channel Intensity Setting in Reciprocal and Co-Contract modes
Cycle Time	Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Frequency	1-200 pps
Ramp	0.5 sec, 1 sec, 2 sec, 5 sec
Treatment Time	1-60 min
Available on Channels	1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

VMS™ Burst

VMS Burst is a symmetrical biphasic waveform delivered in a burst format. Because the pulse is relatively short, the waveform has a low skin load, making it suitable for applications requiring high intensities, such as in muscle strengthening protocols.

Output Mode	Electrodes
Output Intensity	0-200 mA(CC) 0- 200 V (CV)
Channel Mode	Single, Reciprocal, Co-Contract
Phase Duration	20-400 µsec
Mode Selection	CC or CV*
Anti-Fatigue	Off or On
Set Intensity	Individual Channel Intensity Setting in Reciprocal and Co-Contract modes
Cycle Time	Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Frequency	1-200 pps
Ramp	0.5 sec, 1 sec, 2 sec, 5 sec
Treatment Time	1-60 min
Available on Channels	1 & 2, 3 & 4 Option

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (CONTINUED)

Russian

Russian Current is a sinusoidal waveform, delivered in bursts or series of pulses. This method was claimed by its author (Kots) to produce maximal muscle strengthening effects without significant discomfort to the patient.

Output Mode.....Electrodes
Output Intensity.....0-100 mA(CC)
0- 100 V (CV)
Carrier Frequency (Fixed).....2,500 Hz
Channel Mode ..... Single, Reciprocal, Co-Contract
Duty Cycle..... 10%, 20%, 30%, 40%, 50%
Mode Selection ..... CC or CV*
Anti-Fatigue .....Off or On
Cycle Time.....Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Burst Frequency .....20-100 bps
Ramp..... 0.5, 1, 2 and 5 sec
Treatment Time..... 1-60 min
Available on Channels ..... 1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

DC (Direct Current)

DC Current is a direct current flowing in one direction only. The current can be continuous or interrupted.

Output Mode.....Electrodes
Output Intensity.....0-4 mA
Polarity Reversal .....On or Off
With Polarity Reversal On, Polarity will change at 50% of treatment time.
Cycle Time.....Continuous, 5/60, 10/60
Mode Selection ..... CC*
Treatment Time..... 1-10 min
Available on Channels ..... 1 & 2, 3 & 4 Option

SPECIFICATIONS

ULTRASOUND SPECIFICATIONS

Ultrasound

Frequency . . . . . 1 MHz, ± 5%; 3.3 Mhz, ±5%
Duty Cycles. . . . . 10%, 20%, 50%, Continuous
Pulse Frequency . . . . . 100 Hz
Pulse Duration. . . . . 1 mSec, ±20%; 2 mSec, ±20%; 5 mSec, ±20%

Output Power

10 cm^2 Crystal . . . . . .0-20 W at 1MHz, 0-10 W at 3.3 MHz
5 cm^2 Crystal . . . . . .0-10 W, 1 and 3.3 MHz
2 cm^2 Crystal . . . . . .0-4 W, 1 and 3.3 MHz
1 cm^2 Crystal . . . . . 0-2 W 3.3 MHz Only
Amplitude. . . . . .0 to 2.5 w/cm^2 in continuous mode, 0-3 w/cm^2 in pulsed modes
Output accuracy. . . . . .±20% above 10% of maximum
Temporal Peak to Average Ratio:. . . . 2:1, ± 20%, at 50% Duty Cycle
5:1, ± 20%, at 20% Duty Cycle
9:1, ± 20%, at 10% Duty Cycle
Beam Nonuniformity Ratio. . . . . 5.0 : 1 maximum
Beam Type . . . . . .Collimating
IPXX Rating for Unit. IPX0
IPXX Rating for Applicator IPX7

Effective Radiating Areas. . . . . 10 cm^2 Crystal: 6.8 cm^2 – 10 cm^2
5 cm^2 Crystal: 3.5 cm^2 – 5 cm^2
2 cm^2 Crystal: 1.4 cm^2 – 2 cm^2
1 cm^2 Crystal: 0.7 cm^2 – 1 cm^2
Treatment Time. . . . . 1-30 min

Head Warming Feature

The Head Warming feature of an Vectra Genisys Combination Therapy System utilizes Ultrasound output resulting in warming of the Sound Head to increase patient comfort.

With Head Warming enabled, ultrasound is emitted without pressing the Start button. The Applicator LED will not illuminate during the Head Warming period. US Channel will indicate "Head Warming".

Output . . . . . .0 - 50% Cycling of maximum power
Frequency. . . . . 3.3 Mhz
Sound Head Temperature . . . . . 29.4 °C - 43.3 °C (85 °F - 110 °F)

⚠ WARNING

Do not apply the Ultrasound Applicator to the patient during the Head Warming period. Applicator must remain in Applicator Hook during the Head Warming period.

VECTRA GENISYS THERAPY SYSTEMS

Remove the Vectra Genisys Two or Four Channel Therapy System and all accessories from the shipping carton. Visually inspect for damage. Report any damage to the carrier immediately.

Contents of Carton:

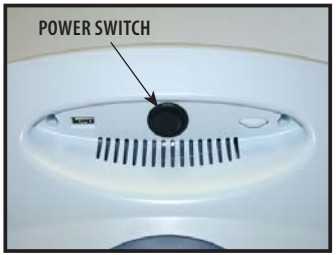
- Vectra Genisys Two or Four Channel Electrotherapy or Combination System
- sEMG Module (Installed on System)
- Patient Data Cards (1)
- DURA-STICK II 1.25 in (3 cm) Round Disposable Electrodes (2 packs of 4 for use with sEMG and sEMG + Electrical Stimulation)
- sEMG Lead Wires (one for Channel 1 and one for Channel 2)
- Electrotherapy Lead Kit that includes:
  - Lead Wires (one for Channel 1 and one for Channel 2)
  - DURA-STICK II 2.75 in (7 cm) Round Disposable Electrodes (1 pack of 4)
- Lead Wires- (one for Channel 3 and one for Channel 4 - Four (4) Channel Systems only)
- 5 cm^2 Ultrasound Applicator (Combination Systems Only)
- Cord Set
- Conductor Transmission Gel - 1 bottle (Combination Systems Only)
- User Manual

THERAPY SYSTEM SET UP

Accessing Operator Utilities

Plug unit into wall outlet.

Turn system On.

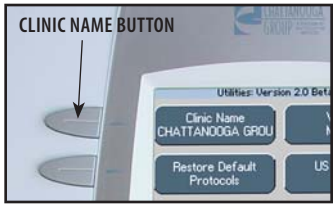


Press the Home and Back buttons simultaneously.

To return to the System Home screen, press the Home button.

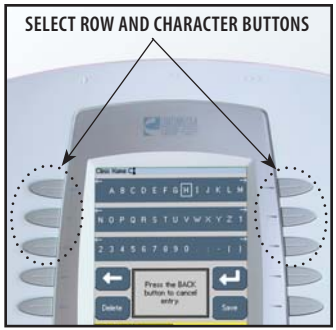
Clinic Name

Press Clinic Name button.



Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.

NOTE: To add a space, select the area to the left of the letter A.

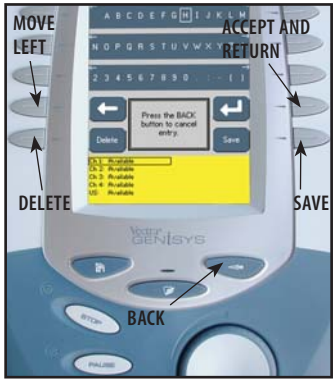


Once selection is framed, press the Accept and Return Arrow button. The character just chosen will display in the top of the screen and the cursor will advance to the next character.

To go back a character press the Move Left Arrow button. To delete the character, press the Delete button.

Once Clinic Name is completed, press the Save button.

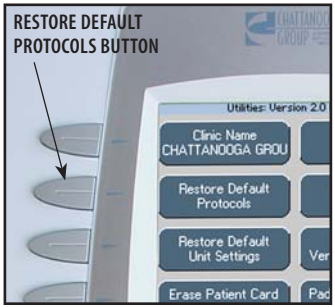
To discard entry, press the Back button.



THERAPY SYSTEM SET UP (CONTINUED)

Restore Default Protocols

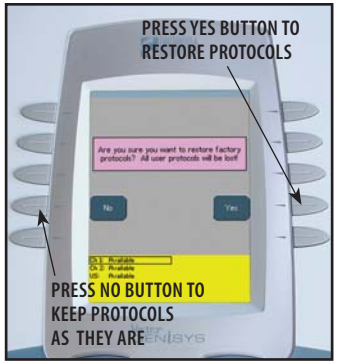
Press Restore Default Protocols button.



Press Yes button to restore the Protocols to Factory Settings.

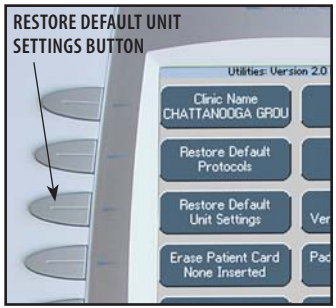
NOTE: This will permanently remove all User Protocols and User saved Sequences.

If it is not desired to permanently remove all of the User Protocols and User Sequences from the System, press the No button.

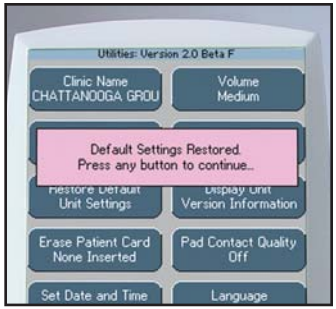

PRESS YES BUTTON TO RESTORE PROTOCOLS
Are you sure you want to restore factory protocols? All user protocols will be lost!
No
Yes
PRESS NO BUTTON TO KEEP PROTOCOLS AS THEY ARE

Restore Default Unit Settings

Press the Restore Default Unit Settings button to restore the system defaults. This control will neither change the Date and Time nor affect any of the Clinical Protocols™ stored in the system.


RESTORE DEFAULT UNIT SETTINGS BUTTON
Utilities: Version 2.0
Clinic Name CHATTANOOGA GROU
Restore Default Protocols
Restore Default Unit Settings
Erase Patient Card None Inserted

After the settings have been restored, a message will appear stating that the Default Unit Settings are restored. Press any button to return to Utilities screen.

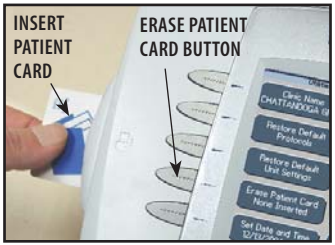

Utilities: Version 2.0 Beta F
Clinic Name CHATTANOOGA GROU
Volume Medium
Default Settings Restored. Press any button to continue...
Restore Default Unit Settings
Display Unit Version Information
Erase Patient Card None Inserted
Pad Contact Quality Off
Set Date and Time
Language

THERAPY SYSTEM SET UP (CONTINUED)

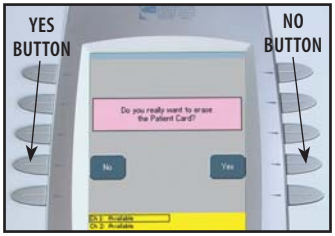
Erase Patient Data Card

Install Patient Data Card to be erased into Patient Data Card Access Port on the system.

Press Erase Patient Card button.



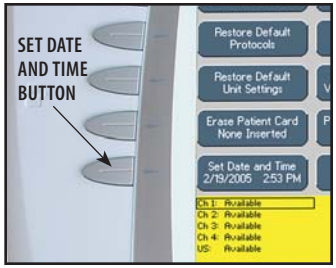
Press the Yes button to erase all data from Patient Data Card. Press the No button to keep all data on Patient Data Card.



After Patient Data Card is erased, a verification message will appear. Press any button to return to the Utilities screen.

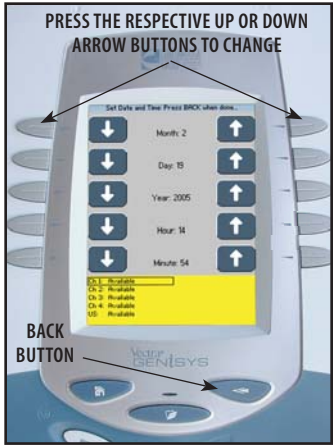
Set Date and Time

Press Set Date and Time button.


SET DATE AND TIME BUTTON
Restore Default Protocols
Restore Default Unit Settings
Erase Patient Card None Inserted
Set Date and Time 2/19/2005 2:53 PM

Press the UP or Down Arrow button for the respective area until desired change is displayed.

After all desired changes are made, press the Back button to return to the Utilities screen.



THERAPY SYSTEM SET UP (CONTINUED)

Setting System Volume

Press Volume button until the desired system volume is achieved. There are six settings: Off, X-Low, Low, Med, High and X-High.

Each time the Volume button is pressed the setting displayed will emit three beep tones at that level.

Ultrasound Coupling

This warning system works in conjunction with the Applicator LED to alert the user should the Sound Head become uncoupled from the patient. Press the US Coupling button until the desired setting is displayed. There are four different alarm settings and an Off setting.

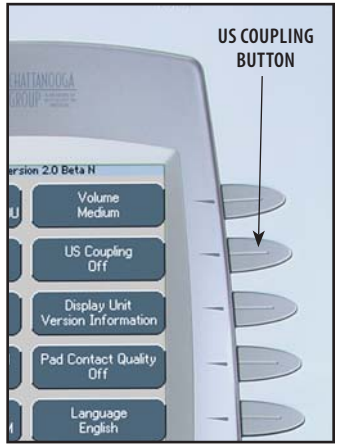
Pause and Beep
Pauses Treatment Time and emits an audible beep. When the Applicator Sound Head is re-coupled to the patient, the Treatment Timer will automatically restart.

Pause and No Beep
Pauses Treatment Timer. When the Applicator Sound Head is re-coupled to the patient, the Treatment Timer will automatically restart.

Beep
Emits an audible beep.

No Beep
No beep is emitted.

Off
Turns off the Ultrasound Coupling feature.



THERAPY SYSTEM SET UP (CONTINUED)

Display Unit Version Information

Press the Display Unit Version Information button to show the system software versions installed.

PRESS DISPLAY UNIT VERSION BUTTON TO VIEW SOFTWARE VERSIONS
Volume Medium
US Coupling Off
Display Unit Version Information
Pad Contact Quality Off

Press the Back button to return the Operator Utilities screen.

Pad Contact Quality

The Pad Contact Quality feature indicates to the user the contact quality of the electrodes on the patient. This function, if On, displays a bar graph at the bottom of Treatment Review screen for the following waveforms only:

The Therapy System Pad Contact Quality default is ON.

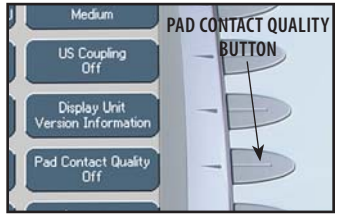
- **Interferential:**
  Dual Channel Graph
- **IFC Premod (2p):**
  Single Channel Graph
- **Russian:**
  Single Channel Graph

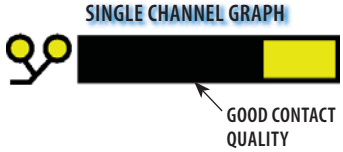
To turn On or Off, press Pad Contact Quality button until On or Off as desired is displayed.

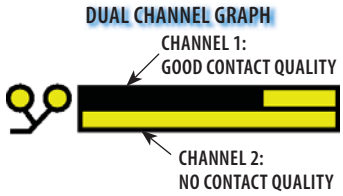
Single Channel Waveforms will display a single bar graph. Dual Channel waveforms will display a double bar graph.

Contact quality is measured by the amount of the graph filled with black.

An ideal contact quality is 75% or more of the graph filled.







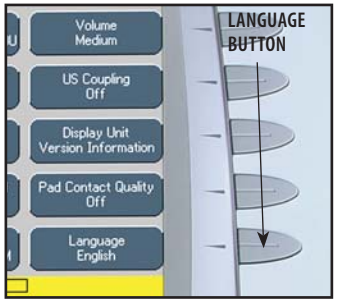
THERAPY SYSTEM SET UP (CONTINUED)

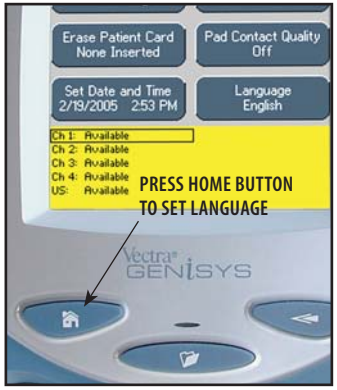
Select Language

To change the language displayed on the system, press the Language button until the desired language is displayed.

Press Home button to set the language and return to Home screen.

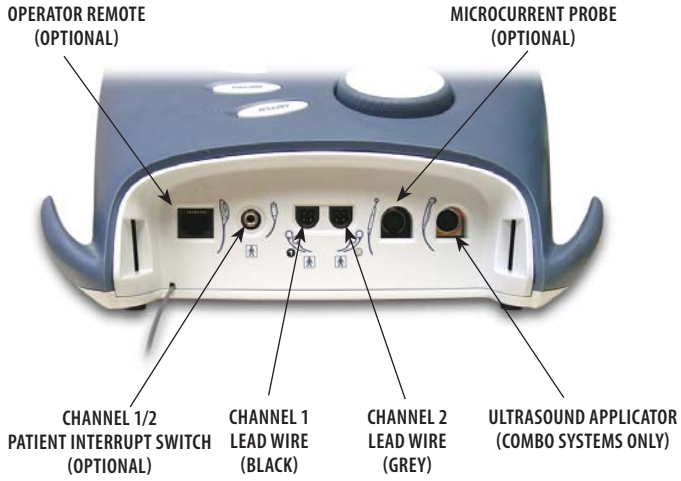
If Unit Default Settings are restored, the language will revert back to English.





Connecting Accessories to the Therapy System

Install Lead Wires, Ultrasound Applicator, Patient Interrupt Switch and any other accessories according to the Front Access Panel as illustrated below. Refer to **page 16** for Symbol Definitions.



ELECTROTHERAPY PATIENT PREPARATION

Electrode Placement

- Examine the skin for any wounds and clean the skin.
- Apply the electrodes to the treatment area.
- Ensure the electrodes are applied securely to the skin.
- Ensure good contact between each electrode and the skin.
- Check the electrode contact regularly during the treatment.
- Examine the skin again after the treatment.
- Choose electrodes that fit the anatomy.
- View the Electrode Placement recommendations in the Treatment Review screen for the particular modality being used for treatment as a reference point only prior to administering treatment.
- Refer to the respective electrode type instructions on **pages 33 through 35**.
- Follow electrode manufacturer instructions.

⚠ WARNING

- Keep electrodes separated during treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.
- Output current density is related to electrode size. Improper application may result in patient injury. If any question arises as to the proper electrode size, consult a licensed practitioner prior to therapy session.
- Powered muscle stimulators should be used only with the leads and electrodes recommended for use by the manufacturer.

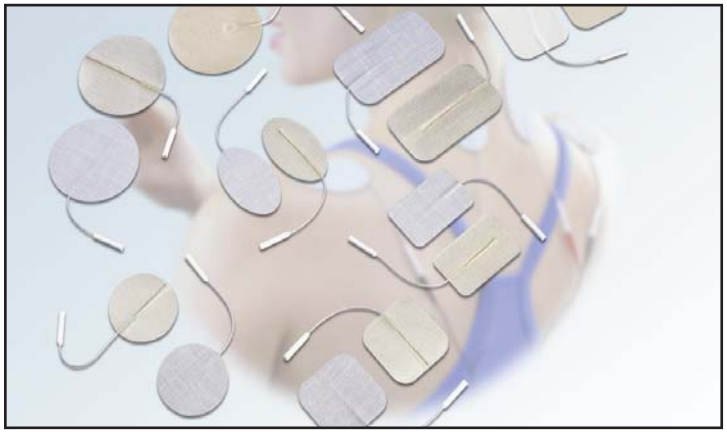
ELECTROTHERAPY PATIENT PREPARATION (CONTINUED)

DURA-STICK™ Electrodes

Chattanooga Group DURA-STICK Electrodes are a self adhesive, single patient, one time use disposable product designed specifically for use with Chattanooga Group Electrotherapy systems.

It is recommended that Chattanooga Group DURA-STICK Electrodes be used whenever possible to ensure the highest level of contact with the treatment area and most uniform delivery of the prescribed electrotherapy treatment.

Properly dispose of used DURA-STICK Electrodes upon completion of the therapy session.



Reusable Carbon Electrodes (Optional)

If used for delivery of electrotherapy, the Carbon Electrodes must be used with a conductive medium such as Conductor™ Transmission Gel.

These Carbon Electrodes should be secured to the treatment area using Nylatex® Wraps.

ELECTROTHERAPY PATIENT PREPARATION (CONTINUED)

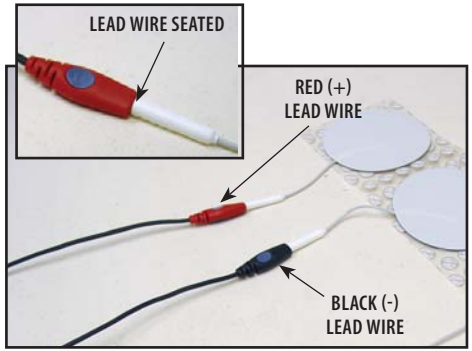
DURA-STICK™ Electrode Instructions

Connecting Lead Wires

Insert the lead with the Red (+) electrode connector into one DURA-STICK Electrode. Insert the lead with the Black (-) electrode connector into the other electrode.

Make certain the lead wires are seated completely into the electrodes.

NOTE: Use of conductive medium or sponges is not required or recommended. DURA-STICK Electrodes are manufactured to ensure the optimum conductivity during therapy when properly applied.



Securing Electrodes

Remove the DURA-STICK Electrodes from the protective backing and apply to the treatment area as prescribed. Ensure the entire electrode surface is in contact with patient skin by pressing into place.

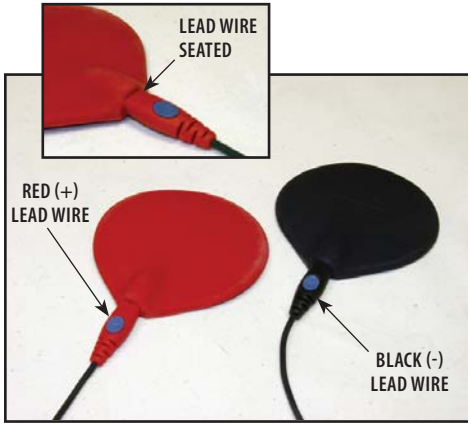
ELECTROTHERAPY PATIENT PREPARATION (CONTINUED)

Reusable Carbon Electrodes (Optional)

Connecting Lead Wires

Insert the lead with the Red (+) electrode connector into Red electrode. Insert the lead with the Black (-) electrode connector into the Black electrode.

Make certain the lead wires are seated completely into the electrodes.

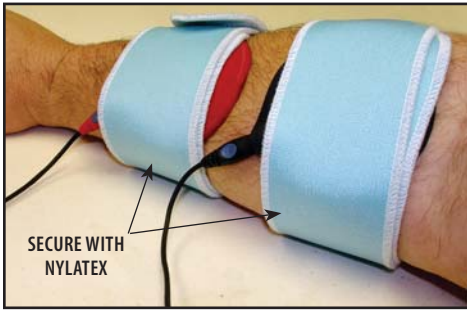


Conductive Medium

Liberally apply Conductor™ Transmission Gel to electrode prior to placement on patient.

Securing Electrodes

Use Nylatex® Wrap to secure each electrode in position on the patient.



⚠ CAUTION

Nylatex® Wraps contain dry natural rubber and may cause allergic reactions in patients with allergies to latex.

PATIENT PREPARATION

ULTRASOUND PATIENT PREPARATION

Preparing Treatment Area

Examine the skin for any wounds and clean the skin.

Size of Applicator

View the Sound Head Recommendation in the Treatment Review screen for Ultrasound (as a reference point only) prior to administering treatment.

Sound Heads are available in the sizes shown below.

Applicator Preparation

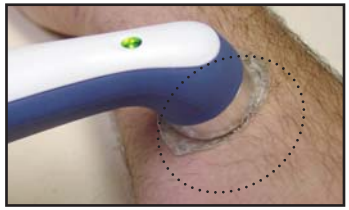
Clean applicator before each therapy session with warm soapy water.

Conductive Medium

Liberally apply Conductor™ Transmission Gel or equivalent to the treatment area on the patient.

Treatment Area

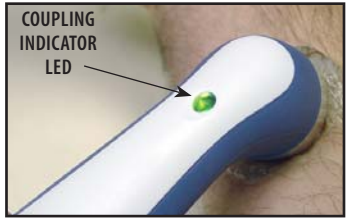
Move the Sound Head during therapy session in a circular motion. The area treated should be two times the diameter of the Sound Head.



Applicator Coupling

If US Coupling is On, the Sound Head is properly coupled to the patient and administering ultrasound when the LED is constantly illuminated.

NOTE: Refer to **page 29** for US Coupling settings.



sEMG AND sEMG+STIM PATIENT PREPARATION

This section applies only to models capable of supporting the functions of the sEMG module.

Install sEMG Lead Wires to System

Remove the Front Access Cover from the Therapy System and remove the existing Lead Wires. Connect the sEMG Lead wires to the channel(s) desired for use with the sEMG or sEMG + Stim modality.

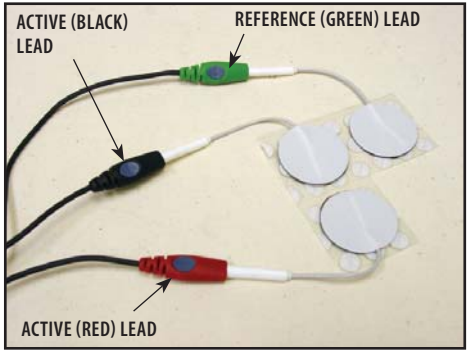
Replace the Front Access Cover.

NOTE: Two Channels may be used for sEMG Therapy at the same time. If four electrotherapy channels are available, a maximum of only two may be used at a time and must be channels 1/2 or 3/4.

Install DURA-STICK™ II Electrodes

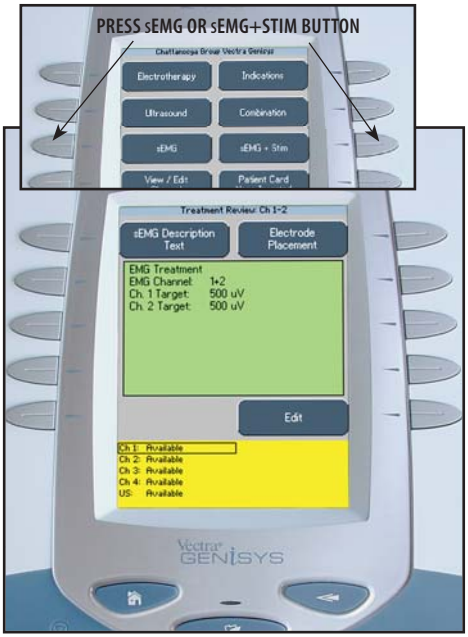
Connect a DURA-STICK II 1.25 in (3 cm) disposable electrode to each lead. These electrodes are designed for use with Chattanooga Group equipment and will provide an accurate reading of sEMG activity.

Leave electrodes on the protective backing until treatment area has been prepared.



Select Modality

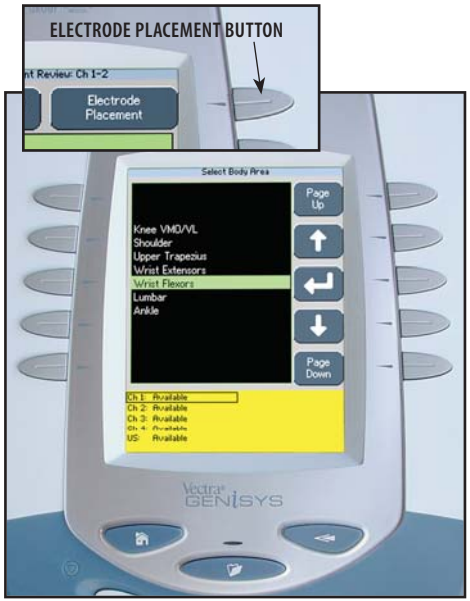
Press the sEMG or sEMG + Stim button as required for the therapy prescribed.



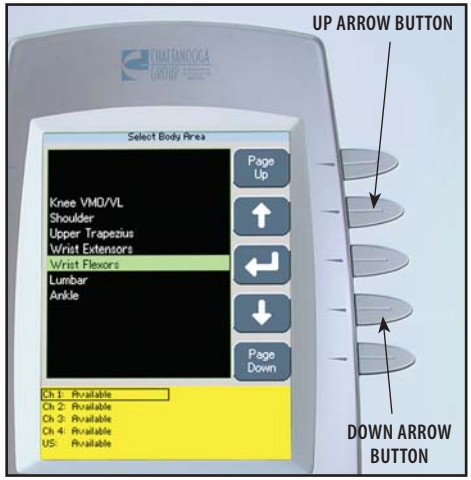
sEMG AND sEMG+STIM PATIENT PREPARATION (CONTINUED)

Select Body Area

Press the Electrode Placement button to view the Select Body Area screen.



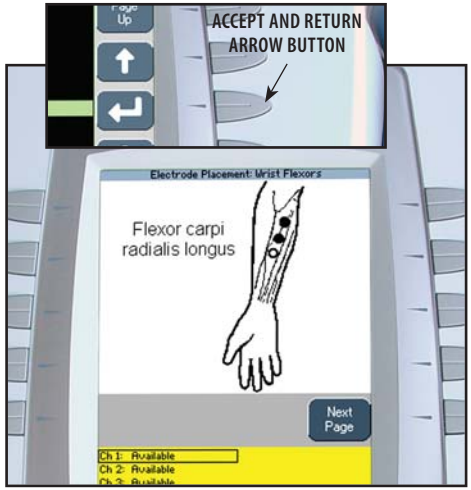
Press the Up and Down Arrow buttons until the area desired is highlighted.



NOTE: The Page Up and Page Down buttons allow navigation either at the top or bottom of the available selections.

View Electrode Placement Graphic

Press the Accept and Return Arrow button to view the specific electrode placement graphic.



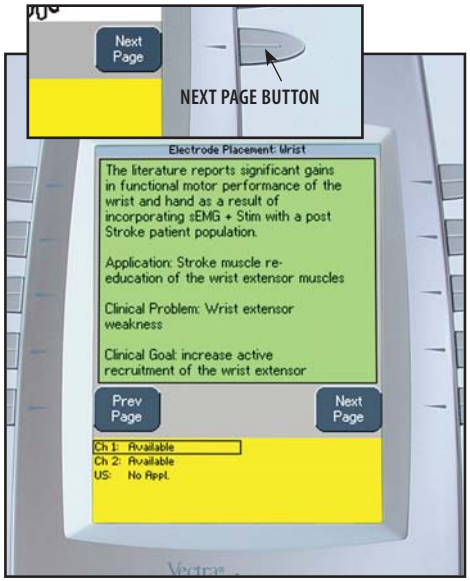
NOTE: As illustrated, the two Black electrodes represent Active electrodes and the one White electrode represents the Reference electrode.

PATIENT PREPARATION

sEMG AND sEMG+STIM PATIENT PREPARATION (CONTINUED)

View Electrode Placement Text

Press the Next Page button to view text relating to the specific electrode placement selected and typical conditions of the area.

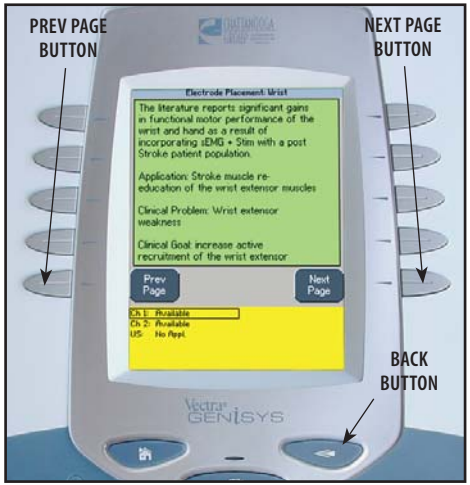

Next Page
NEXT PAGE BUTTON
Electrode Placement: Wrist
The literature reports significant gains in functional motor performance of the wrist and hand as a result of incorporating sEMG + Stim with a post Stroke patient population.
Application: Stroke muscle re-education of the wrist extensor muscles
Clinical Problem: Wrist extensor weakness
Clinical Goal: increase active recruitment of the wrist extensor
Prev Page
Next Page
Ch 1: Available
Ch 2: Available
US: No Appl.

Press the Next Page button to view additional text.

Press the Prev Page button to review the previous page.

Press the Back button to return to the Select Body Area screen.

Press the Back button a second time to return to the Treatment Review screen.


PREV PAGE BUTTON
NEXT PAGE BUTTON
Electrode Placement: Wrist
The literature reports significant gains in functional motor performance of the wrist and hand as a result of incorporating sEMG + Stim with a post Stroke patient population.
Application: Stroke muscle re-education of the wrist extensor muscles
Clinical Problem: Wrist extensor weakness
Clinical Goal: increase active recruitment of the wrist extensor
Prev Page
Next Page
Ch 1: Available
Ch 2: Available
US: No Appl.
BACK BUTTON

Prepare Treatment Area

Examine the skin for any wounds.

Thoroughly clean the treatment area by scrubbing the skin with medical grade alcohol.

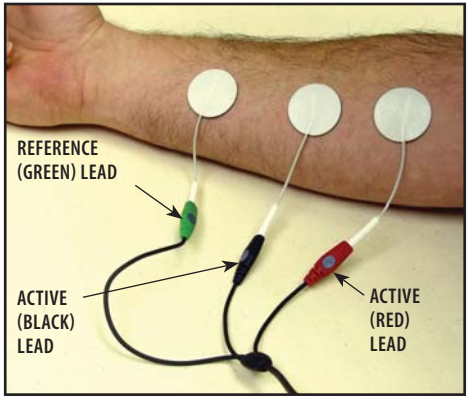
NOTE: Thorough and proper cleaning of the treatment area to remove any topical medication and cream film as well as loose skin particles from the treatment area is critical to the skin contact and reception of the Electrodes during sEMG and sEMG + Stim therapy.

sEMG AND sEMG+STIM PATIENT PREPARATION (CONTINUED)

Electrode Placement

Using DURA-STICK™ II 1.25 in (3 cm) electrodes, place the Active (red and black lead) electrodes in the center of the muscle belly and parallel with the muscle fibers.

Position the Reference electrode (green lead) in close proximity to the treatment area. Review the specific Electrode Placement graphic for positioning of the Reference (green lead) electrode.



NOTE: The electrodes may be placed for specific, general and quasi-specific biofeedback muscle or muscle group activity.

Using small electrodes and placing them closer together will render a more specific reading of muscle activity during sEMG and sEMG + Stim therapy.

The Active electrodes may be placed farther apart to obtain a general reading of a muscle or muscle group activity during the session.

Chattanooga Group recommends using only DURA-STICK™ II electrodes to obtain the most accurate sEMG feedback.

Follow the electrode manufacturer instructions.

Trimming or cutting electrodes may interfere with the reception of sEMG data and may affect the delivery of electrical stimulation in the sEMG + Stim Modality.

Intra-Vaginal Probe

If using the Intra-Vaginal Probe, plug the active ends of the sEMG lead wire (red and black) into the Intra-Vaginal Probe.

The Intra-Vaginal Probe is for single patient use only. Refer to the instructions packaged with the probe for proper use, care and disposal.

⚠ WARNING

- Keep stim electrodes separated during sEMG + Stim treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.
- Long term effects of chronic electrical stimulation are unknown.
- Stimulation should not be applied over the anterior neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing.

OPERATOR INTERFACE

The Vectra Genisys Therapy System Operator Interface houses all of the functions and controls necessary for the operator to access all operator utilities, modalities and parameters for modification and system set up.

1. **Top of Screen**
   The Title Bar indicates the Screen Title for the modality being used. When at the System Home screen, the Clinic Name is displayed.
2. **Center of Screen**
   Contains available Modality options. Select Modality by pressing the desired Modality button and then make parameter modifications.
3. **Bottom of Screen**
   Displays available channels and their respective status. Displays Treatment Time and status. After starting therapy session, Modality and Parameter buttons are used to select and modify channel parameters.
4. **Unit On Indicator**
   Illuminates green when System is connected to an AC mains power source. When the System is On, the indicator will illuminate blue. With System On, and if the system sits unused, the Screen Saver initiates (blank screen) and the Blue Indicator will flash.
5. **Back button**
   Used to return back one screen. Used in conjunction with the Home button to access the Operator Utilities screen.
6. **Clinical Resources Library button**
   Used to access Clinical Protocols™, User Protocols, Sequencing, and the Clinical (Anatomical/Pathological) Libraries screen.
7. **Intensity Knob**
   Rotate clockwise to increase Modality intensity. Rotate counterclockwise to decrease Modality intensity.
8. **Start button**
   Press to start therapy session after all initial parameters have been set.
9. **Pause button**
   Press to pause a therapy session. Press again to restart session.
10. **Stop button**
    Press to completely stop the therapy session.
11. **Home button**
    Used to go back to the System Home screen. Used in conjunction with the Back button to access the Operator Utilities screen.
12. **Modality and Parameter buttons**
    Used to select modality and edit treatment parameters.

HOME SCREEN

The Vectra Genisys Home screen affords access to all of the system modalities and functions. The area surrounding the screen has 10 modality and parameter modification buttons.

1. **Electrotherapy**
   Accesses all the available waveforms and parameter editing controls.
2. **Indications**
   Accesses specific pre-programmed indications, for general reference only, which aid in selecting the proper waveform and electrode placement for particular indicated patient syndrome diagnoses.
3. **Ultrasound**
   Accesses the Ultrasound set up screen and parameter editing controls.
4. **Combination**
   Accesses combination therapy set up screens and parameter editing controls.
5. **sEMG**
   Accesses the Surface EMG (sEMG) modality and parameter editing controls.
6. **sEMG + Stim**
   Accesses the Surface EMG (sEMG) + Electrical Stimulation modality and parameter editing controls.
7. **View/Edit Channel**
   Accesses the selected channel and allows editing of the channel's parameters during therapy. Also used in the saving of information to the Patient Data Card.
8. **Patient Card**
   Accesses Patient Data Card data.
9. **Select Channel**
   Use to select desired channel for viewing and editing of channel parameters.
10. **Unused**
    Reserved for optional expansion Modules.

ELECTROTHERAPY SCREEN

The screen allows the operator to access, set up, and modify parameters of each of the available waveforms within the Vectra Genisys Therapy System. The following pages give a general explanation of a treatment setup.

Refer to the Specifications section, beginning on **page 18**, for detailed specifications of the system and each available waveform.

GENERAL ELECTROTHERAPY WAVEFORM SET UP

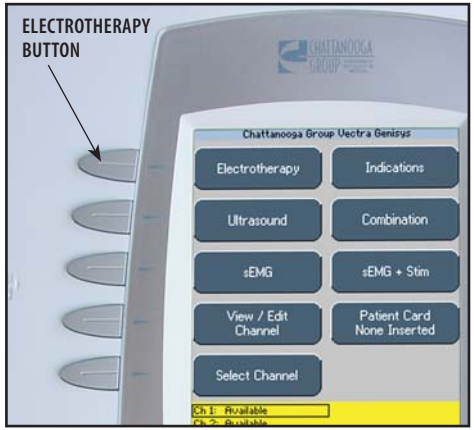
The following information is an example of step by step set up for the Electrotherapy waveforms. All waveforms in the Vectra Genisys Therapy System are set up and edited in the same basic fashion. The following set up instructions use Interferential Waveform.

Prepare Patient

Refer to **pages 32 through 35** for electrode selection, preparing patient, and securing electrodes.

Select Modality

Press the Electrotherapy button on the Home screen.



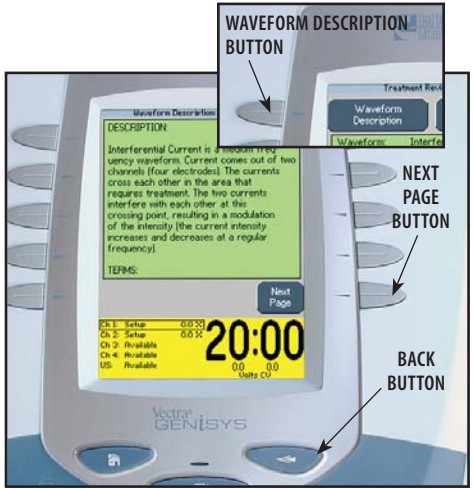
Select Waveform

Press button beside the desired waveform from the listing on the screen.

Refer to Specifications section of this manual for all available waveforms on the Vectra Genisys Therapy System.

View Waveform Description

Press the Waveform Description button to view text explaining the waveform rationale.

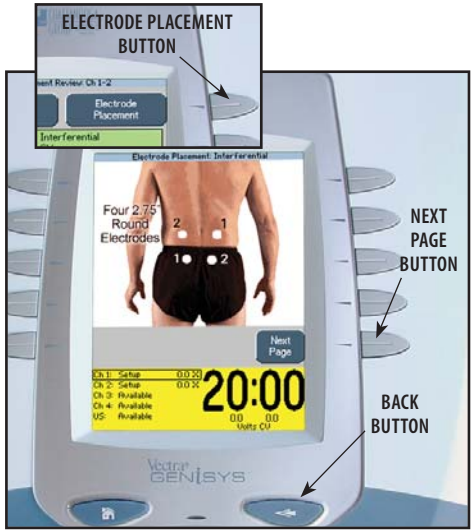


Press the Next Page button to view additional text. Press the Back button to return to the Treatment Review screen.

GENERAL ELECTROTHERAPY WAVEFORM SET UP (CONTINUED)

View Electrode Placement

Press the Electrode Placement button to view the most commonly used electrode placement for the waveform selected.

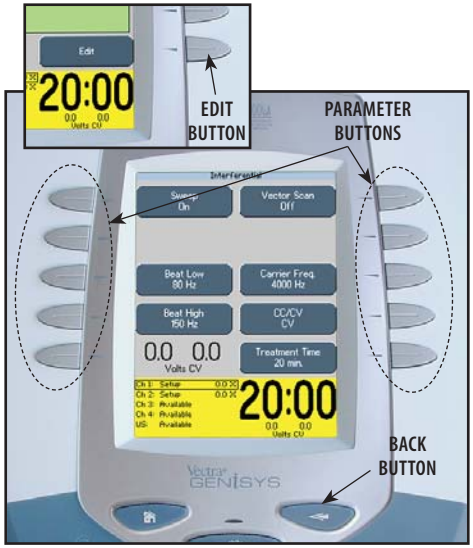


Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Edit Waveform Parameters

Press Edit button to access waveform parameters.

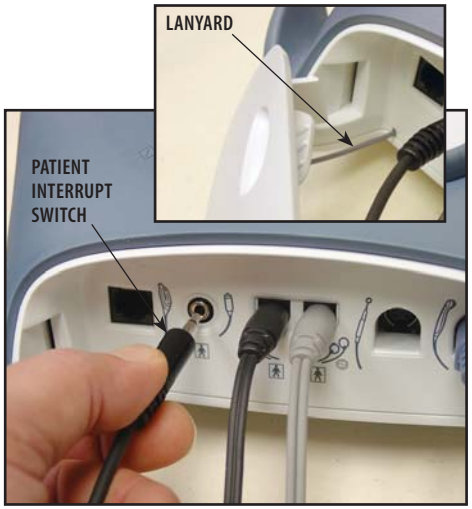
Press the corresponding button to edit each parameter as prescribed.



Press the Back button to return to the Treatment Review screen.

Install Optional Patient Interrupt Switch

Make certain the Patient Interrupt Switch is connected to the Therapy System. Refer to **page 16** for Symbol Definitions.

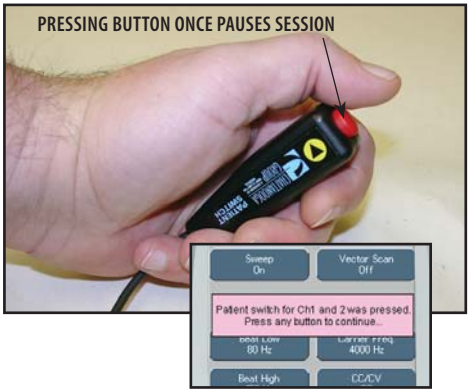


NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

GENERAL ELECTROTHERAPY WAVEFORM SET UP (CONTINUED)

Optional Patient Interrupt Switch

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.


PRESSING BUTTON ONCE PAUSES SESSION
Sweep On
Vector Scan Off
Patient switch for Ch1 and 2 was pressed. Press any button to continue...
Beat Low 80 Hz
Carrier Freq 4000 Hz
Beat High
CC/CV

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Waveform Intensity

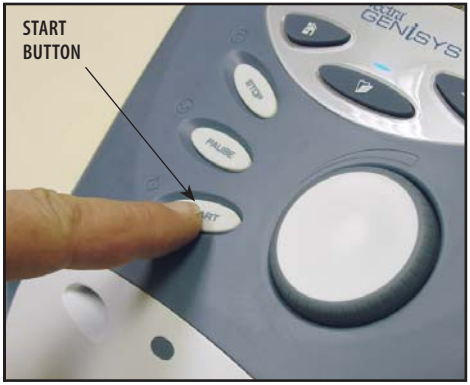
Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

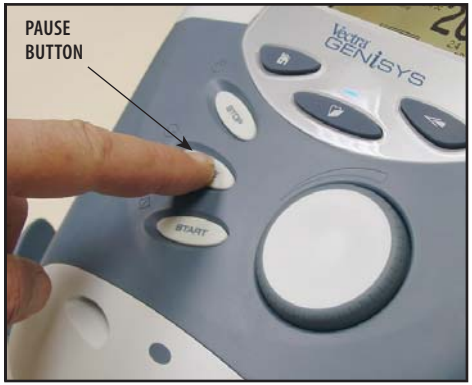
Press the Start button to begin therapy session.



GENERAL ELECTROTHERAPY WAVEFORM SET UP (CONTINUED)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

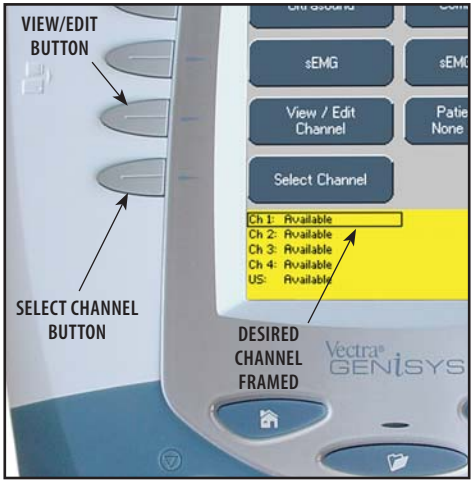
ADJUSTING ELECTROTHERAPY CHANNEL PARAMETERS DURING TREATMENT

The Electrotherapy channel parameters may be changed during a treatment session without pausing or stopping the treatment. The waveform Intensity may be increased or decreased at any time during the session without utilizing this process.

Select Channel

Press the Home button.

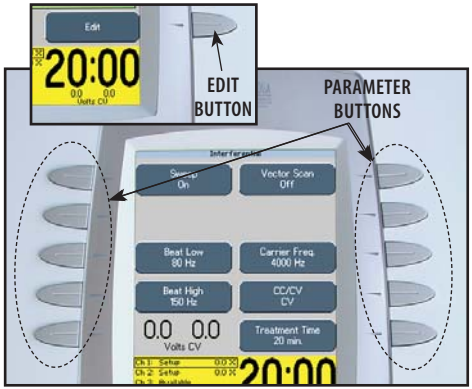
Press the Select Channel button until the channel desired is framed.



Press the View/Edit Channel button. The Treatment Review screen will display.

Edit Channel Paramenters

Press the Edit button. Edit parameters as desired.



When finished editing the selected channel, press the Home button to select another channel if desired.

To view the Treatment Review screen, if the Home screen is displayed, press the View/Edit Channel button. If the Edit screen is displayed, press the Back button.

ULTRASOUND

The Vectra Genisys Therapy System Ultrasound modality allows the user to select specific Sound Head recommendations and edit treatment parameters for various syndromes requiring the use of ultrasound therapy. The following information gives general instructions for the setup of ultrasound therapy when selecting Ultrasound from the Home screen. Clinical Protocols™, Indications, and Ultrasound treatment parameters are edited in their respective fashions.

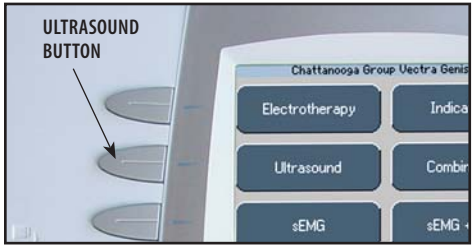
Prepare Patient

Refer to **page 36** for Applicator sizes, patient preparation, and use of conductive medium.

NOTE: Use only Vectra Genisys Ultrasound Applicators. Previous models of Chattanooga Group Ultrasound Applicators will not work with the Vectra Genisys Therapy System.

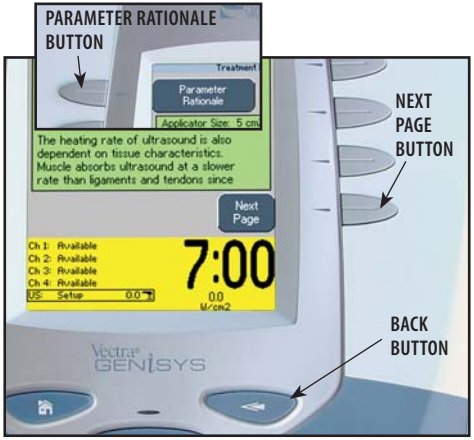
Select Modality

Press the Ultrasound button on the Home screen.



View Parameter Rationale

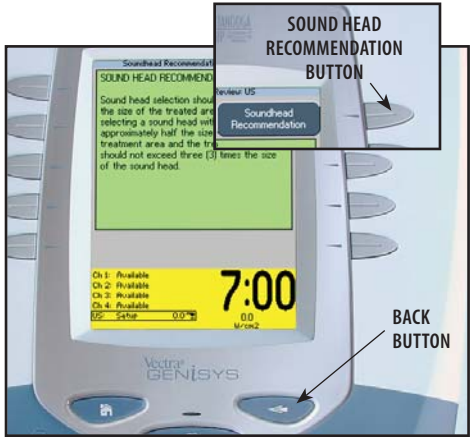
Press the Parameter Rationale button for text. Press the Next Page button to continue viewing text.



Press the Back button to the return to Treatment Review screen.

Sound Head Recommendation

Press Sound Head Recommendation button to view text explaining how to select an Ultrasound Applicator size based on treatment area.



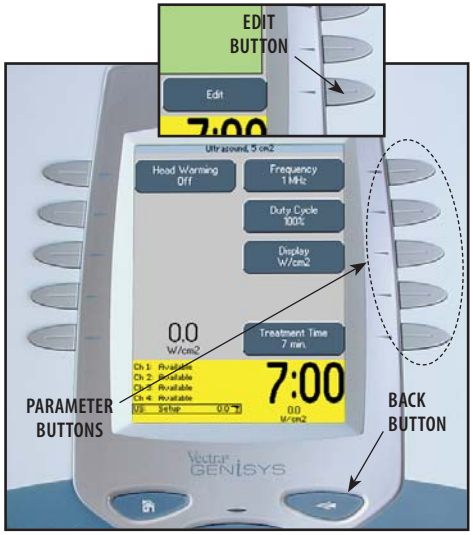
Press the Back button to the return to Treatment Review screen.

ULTRASOUND (CONTINUED)

Edit Ultrasound Parameters

Press Edit button to access ultrasound parameters.

Press the corresponding button to edit as prescribed.



Press the Back button to return to Treatment Review screen.

Head Warming

The Vectra Genisys Therapy System incorporates a Head Warming feature that pre-heats the Sound Head of the Applicator for increasing patient comfort. The control for the Head Warming feature is in the Edit screen of the Ultrasound modality.

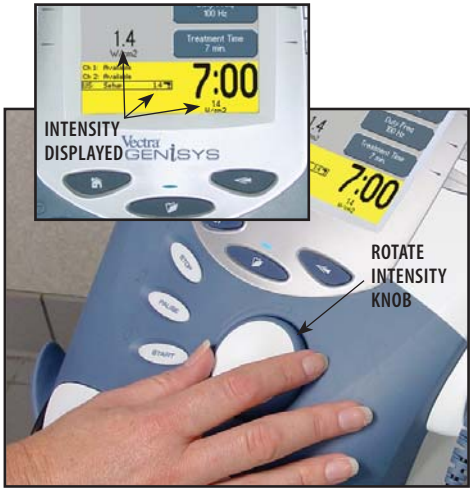
Press the Head Warming button until On is displayed.

To set the default of the Head Warming feature to On, press the Home button after On is displayed in the Head Warming icon. Head Warming will then start when the Therapy System is turned On.

NOTE: Head Warming time is approximately 2 minutes.

Set Ultrasound Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.



Intensity Knob Rotation

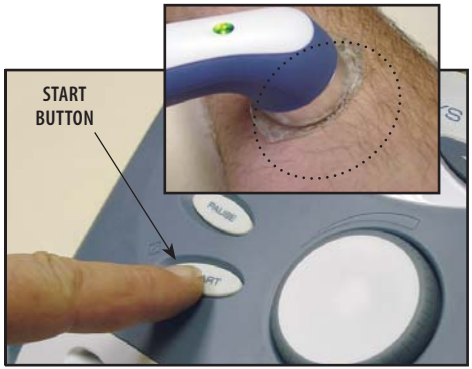
Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

ULTRASOUND (CONTINUED)

Start Treatment

Press the Start button to begin therapy session.

Move the Applicator in a circular motion over the treatment area.



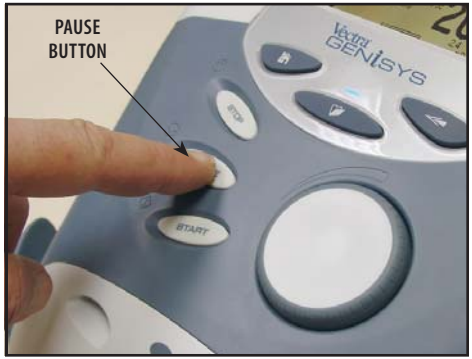
NOTE: If US Coupling is On and the Sound Head loses coupling with the treatment area the session will pause. When coupling is reestablished the session will automatically restart. See **page 29** for US Coupling settings.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

or

If US Coupling is On, and the Sound Head loses coupling with the treatment area, the session will pause. When coupling is reestablished, the session will automatically restart. Refer to **page 29** for US Coupling settings.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

ADJUSTING ULTRASOUND PARAMETERS DURING TREATMENT

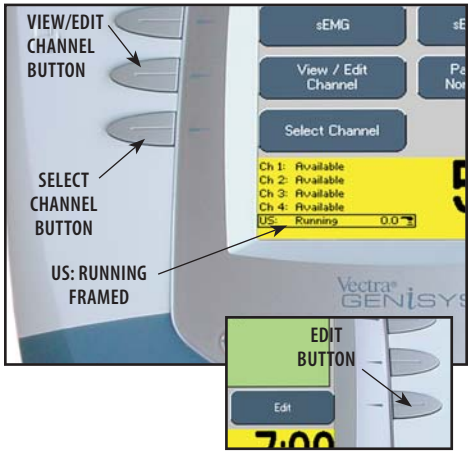
The ultrasound parameters may be changed during a treatment session without pausing or stopping the treatment. The following information provides instructions for changing ultrasound treatment parameters during a treatment session. The ultrasound intensity may be increased or decreased at any time during the session without utilizing this process.

Editing Ultrasound from Home Screen

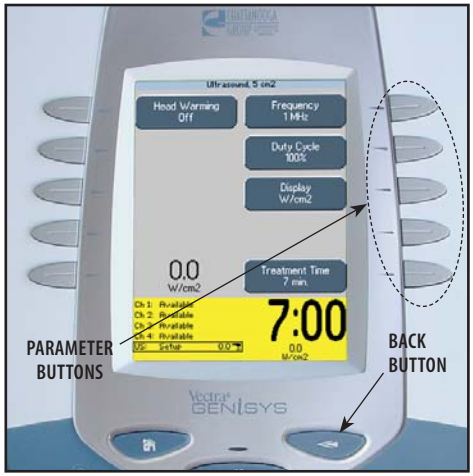
Press Select Channel button until US: Running is framed.

Press View/Edit Channel button.

Press the Edit button on the Treatment Review screen.



Press the corresponding parameter button and edit as prescribed.

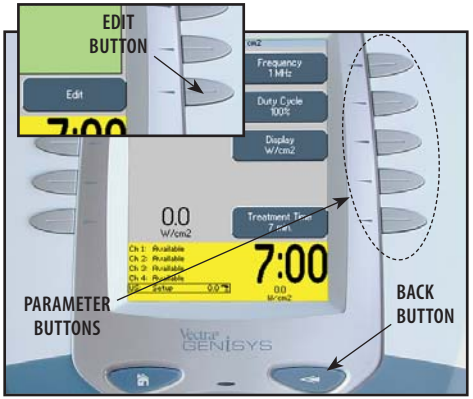


When editing is complete, press the Back button to return to Treatment Review screen.

Editing Ultrasound from Treatment Review Screen

Press the Edit button on the Treatment Review screen.

Press the corresponding parameter button and edit as prescribed.



When editing is complete, press the Back button to return to Treatment Review screen.

sEMG THERAPY SET UP

General Information

The Vectra Genisys sEMG modality reads and records the sEMG biofeedback activity of a muscle or muscle group by sensing the electrical impulses generated during a voluntary muscle contraction and relax cycle. These signals are accurately relayed to the Vectra Genisys Therapy System through 1.25 in (3 cm) DURA-STICK™ II Disposable Electrodes.

sEMG can be beneficial to muscle retraining therapy by setting target values and charting the patient progress in reaching those goals in a specific muscle or muscle group.

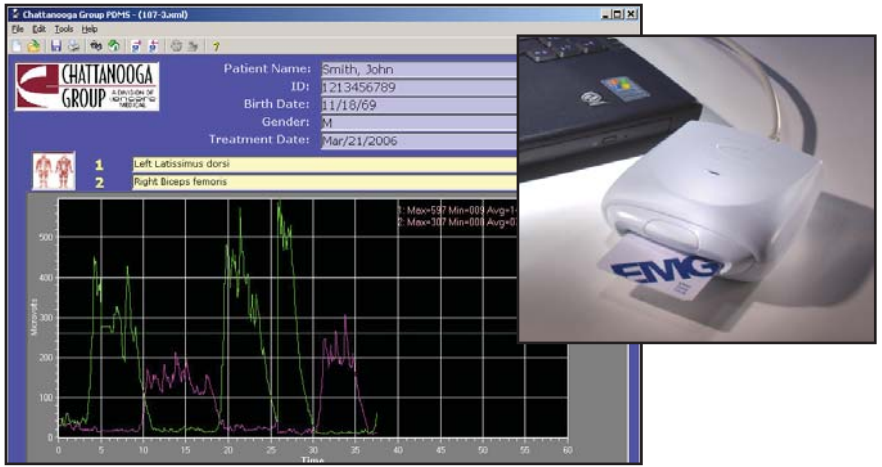
Within this section, general set up procedures of the various parameters of sEMG are explained. Also, set up and use of the optional sEMG Data Card for recording sEMG Data are demonstrated.

NOTE: This section applies only to models capable of supporting the functions of the sEMG module.

Optional Patient Data Management System (PDMS)

The sEMG data can be recorded onto the optional sEMG Data Card and viewed in graph form via the optional Patient Data Management System connected to a Windows® PC. This allows the clinician to record session activity, as well as see progress the patient may be making through therapy, saving the data and printing patient graphs and reports.

Illustrated is an example of the sEMG Graph through the optional Patient Data Management System (PDMS).



sEMG THERAPY SET UP (CONTINUED)

sEMG Screen

The Vectra Genisys sEMG screen affords access to all of the sEMG parameters and functions. The area surrounding the screen has 10 parameter modification buttons. However, only six are used for the sEMG modality. Below is a general description of each of the sEMG parameter buttons. Each sEMG parameter button is explained in greater detail in the following pages of this section.

1. **Channel**
   Select Channel 1, Channel 2, or Channel 1+2. Channel 1+2 is the Default Unit Setting.
2. **Target**
   Select Average, Max, or Manual Target. Max Target is the Default Unit Setting.
3. **Alarm**
   Set Alarm to sound Above, Below, or at Target. Above Target is the Default Unit Setting.
4. **Capture Target**
   Captures target value while patient is performing a series of muscle contractions.
5. **Audio**
   Allows selection of Constant, Pulsed, or Dynamic audio types. Constant is the Default Unit Setting.
6. **Volume**
   Set volume level to Low, Medium, High, or Off. Medium is the Default Unit Setting.

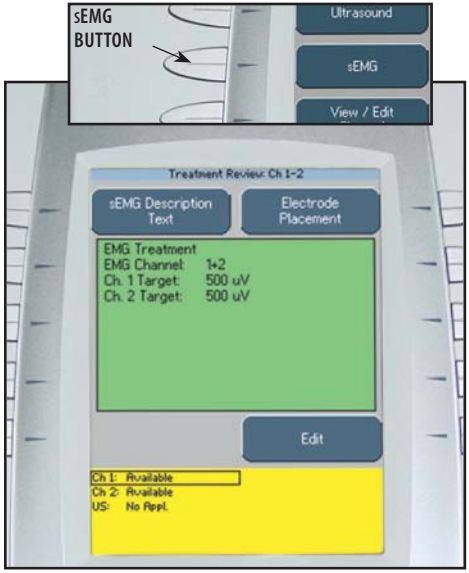
sEMG THERAPY SET UP (CONTINUED)

Prepare System and Patient

Prepare Therapy System and patient. Refer to **pages 37 through 40**.

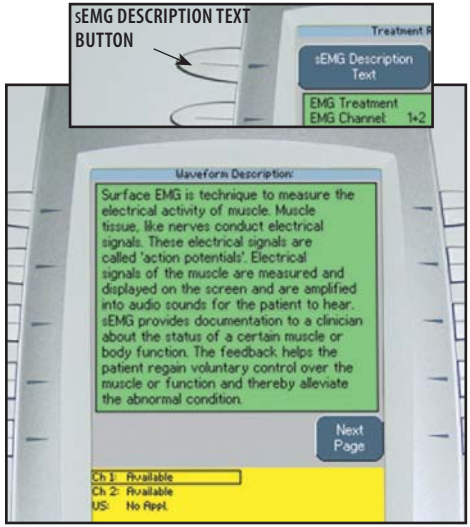
Select sEMG Modality

Press the sEMG button on the Home screen.



View sEMG Description Text

Press the sEMG Description Text button to view text explaining the rationale of sEMG Therapy.


sEMG DESCRIPTION TEXT BUTTON
sEMG Description Text
EMG Treatment
EMG Channel 1+2
Waveform Description:
Surface EMG is technique to measure the electrical activity of muscle. Muscle tissue, like nerves conduct electrical signals. These electrical signals are called 'action potentials'. Electrical signals of the muscle are measured and displayed on the screen and are amplified into audio sounds for the patient to hear. sEMG provides documentation to a clinician about the status of a certain muscle or body function. The feedback helps the patient regain voluntary control over the muscle or function and thereby alleviate the abnormal condition.
Next Page
Ch 1: Available
Ch 2: Available
US: No Appl.

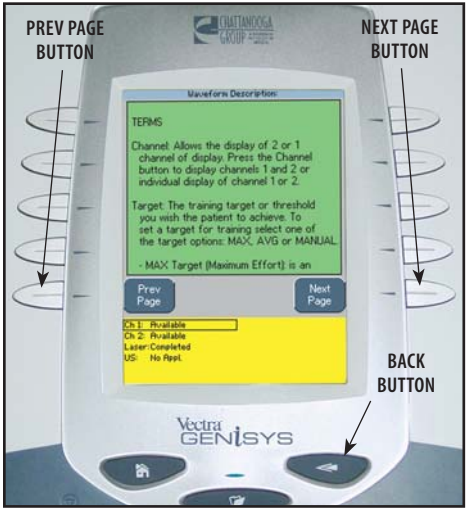
Electrode Placement

Refer to **pages 37 through 40** for Patient Preparation and Electrode Placement.

Press the Next Page button to view additional text.

Press the Prev Page button to review previous page.

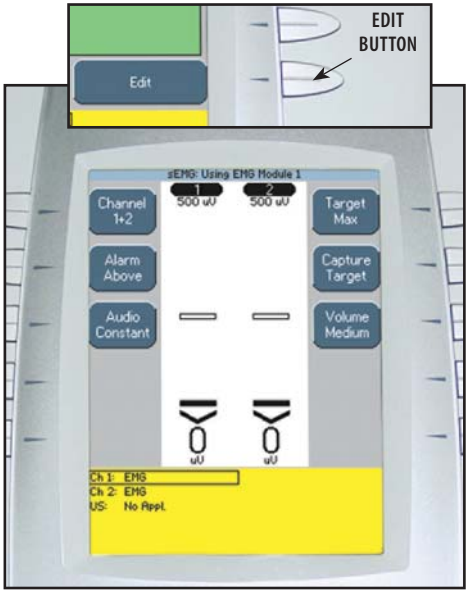
Press the Back button to return to the Treatment Review screen.


PREV PAGE BUTTON
NEXT PAGE BUTTON
Waveform Description:
TERMS
Channel: Allows the display of 2 or 1 channel of display. Press the Channel button to display channels 1 and 2 or individual display of channel 1 or 2.
Target: The training target or threshold you wish the patient to achieve. To set a target for training select one of the target options: MAX, AVG or MANUAL.
- MAX Target (Maximum Effort) is an
Prev Page
Next Page
Ch 1: Available
Ch 2: Available
Laser: Completed
US: No Appl.
BACK BUTTON
Vectra GENISYS

sEMG THERAPY SET UP (CONTINUED)

Select Edit

Press the Edit button on the Treatment Review screen to edit sEMG parameters as prescribed.

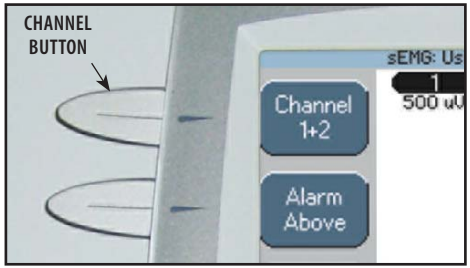


Select Channel

Press the Channel Button until the prescribed channel is displayed in the icon.

Therapy System
Available selections are 1, 2, or 1+2.

Channel 3/4 Electrotherapy Module
Available selections are 3, 4, or 3+4.



NOTE: A maximum of two channels may be used to administer sEMG Therapy. Either channels 1+2 or 3+4. sEMG will not function as a four channel modality.

Set Alarm

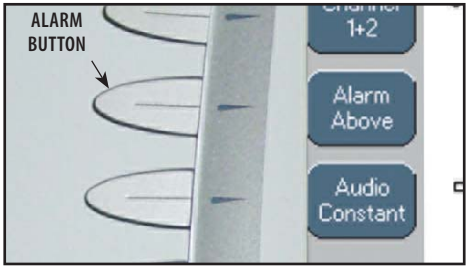
Set the alarm trigger in relation to the target by pressing the Alarm button until the desired selection is displayed in the Alarm icon.

The available selections are:

Above- Alarm sounds when a muscle contraction surpasses the target.

Target- Alarm sounds when a muscle contraction reaches the target.

Below- Alarm sounds when a muscle contraction is below the target.



NOTE: If Volume is Off, no alarm will be heard.

sEMG THERAPY SET UP (CONTINUED)

Set Audio Type

Audio sets the type of sound heard when the muscle contraction reaches the Alarm setting.

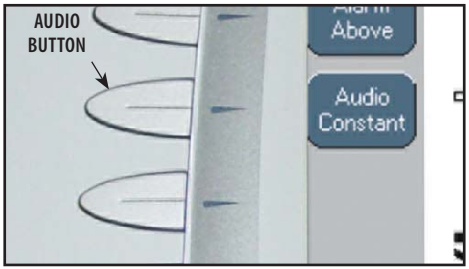
Press the Audio button until the desired audio type is displayed in the Audio icon.

The available selections are;

Constant- Continuous sound. _____

Pulsed- Fast, short beeps. . . . . .

Dynamic- Slow, long beeps. _ _ _ _ _ _



NOTE: If volume is Off, no Audio type will be heard.

Select Target Option

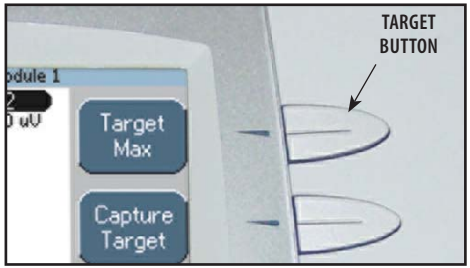
Three options are available for setting the sEMG modality target:

Max- Maximum of muscle contractions in 10 seconds.

Avg- Average of maximums achieved in 15 seconds of muscle contractions.

Manual- Set Target manually.

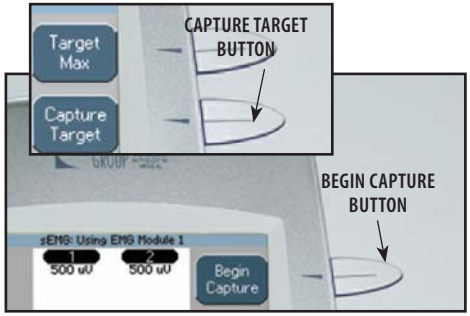
Press the Target button until the prescribed target option is displayed in the Target icon.



Setting Max Target

Make certain Target Max is displayed in the Target icon.

Press the Capture Target button. Have the patient begin contracting the muscle and press the Begin Capture button. Patient should contract the muscle as hard as possible during the preset 10 second contraction period.



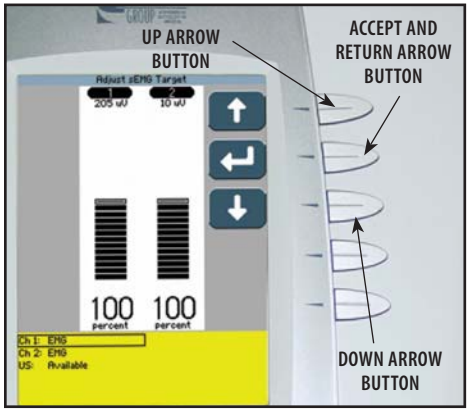
NOTE: The capture may be stopped by pressing the End Capture Button. The System will then select the maximum contraction level achieved during the preset 10 second contraction period.

sEMG THERAPY SET UP (CONTINUED)

During the preset 10 second contraction period, the Therapy System captures and retains the maximum level of the contraction the patient performed, then automatically displays the Adjust sEMG Target screen.

Use the Up and Down Arrow buttons to adjust the Target percentage displayed at the bottom of each channel column.

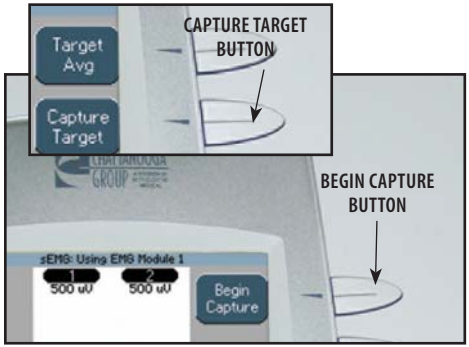
Press the Accept and Return Arrow button to set the Target.



Setting Avg Target

Make certain Target Avg is displayed in the Target icon.

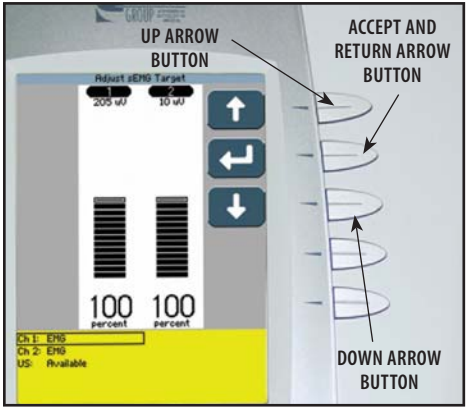
Press the Capture Target button. Have the patient begin contracting and releasing the muscle. Press the Begin Capture button. The patient should contract and release the muscle as many times as possible during the preset 15 second contraction period.



During the preset 15 second contraction period, the Therapy System captures and retains the average maximum level of the contractions the patient performed, then automatically displays the Adjust sEMG Target screen.

Use the Up and Down Arrow buttons to adjust the Target percentage displayed at the bottom of each channel column.

Press the Accept and Return Arrow button to set the Target.

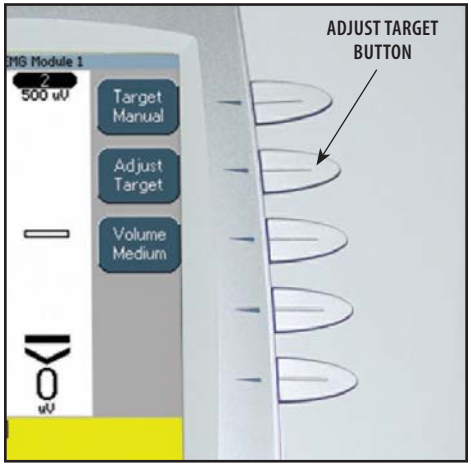


sEMG THERAPY SET UP (CONTINUED)

Setting Manual Target

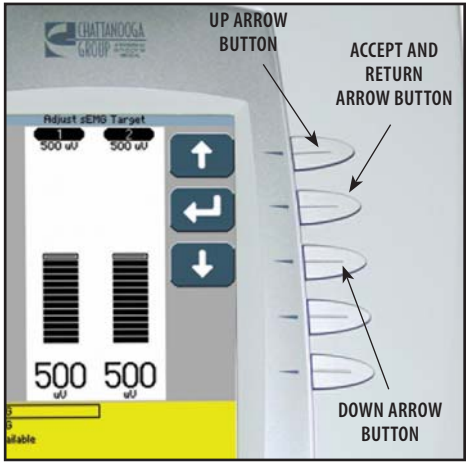
Make certain Target Manual is displayed in the Target icon.

Press the Adjust Target button.



Press the Up and Down Arrow buttons to adjust Target to prescribed level.

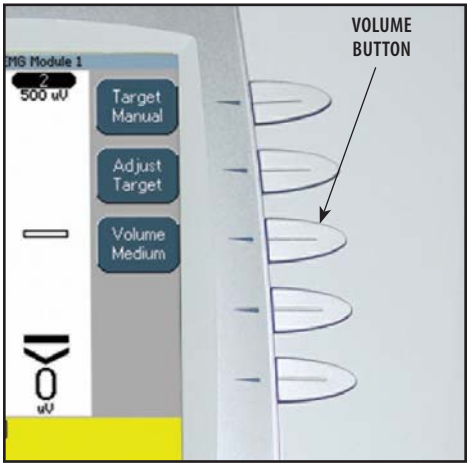
Press the Accept and Return Arrow button to set the Target.



Set Volume

Press Volume button until the desired volume level is displayed in the Volume icon.

The available volume levels are Low, Medium, High and Off.



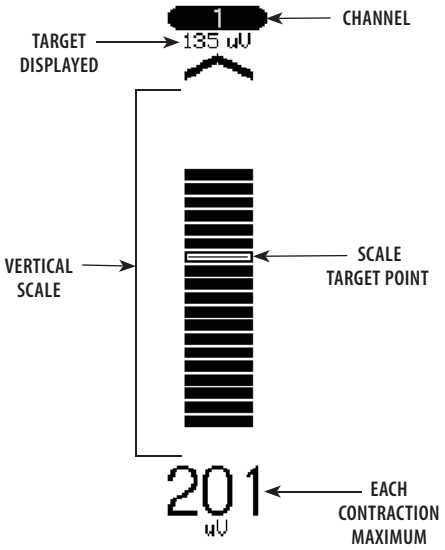
NOTE: If Volume is Off, no alarm will be heard when contraction reaches the target setting.

sEMG THERAPY SET UP (CONTINUED)

Start sEMG Therapy Session

Have patient perform contractions as prescribed.

As the patient contracts the muscle, the Vertical Scale for the channel being used will begin to fill from bottom to top. When the scale reaches the Target, the alarm will sound.



Stopping sEMG Therapy Session

Press the Stop Button. The Completed Treatment Review Screen will display.

NOTE: To record the sEMG Data to a sEMG Data Card, refer to **the sEMG Data Card Section** of this Manual for Set Up and use of the sEMG Data Card.

To save the session parameters to a Patient Data Card, refer to **pages 80 through 89** for set up and use of the Patient Data Card.

The sEMG Data Card cannot be used to save session parameters.

INDICATIONS

The Vectra Genisys Therapy System incorporates a unique Indications section which allows the user to select specific Clinical Indications and apply the most common therapy for the Indication selected. All modalities are editable, in their normal editing fashion, in order to customize the treatment for each patient's prescribed therapy.

Available Indications

Acute Pain

Chronic Pain

Relax Muscle Spasm

Prevent/Retard Disuse Atrophy

Range of Motion

Increase Local Circulation

Muscle Re-education

Stroke Muscle Re-ed

Waveforms- Link to Waveform and Current Library (Same as under Electrotherapy on Home screen).

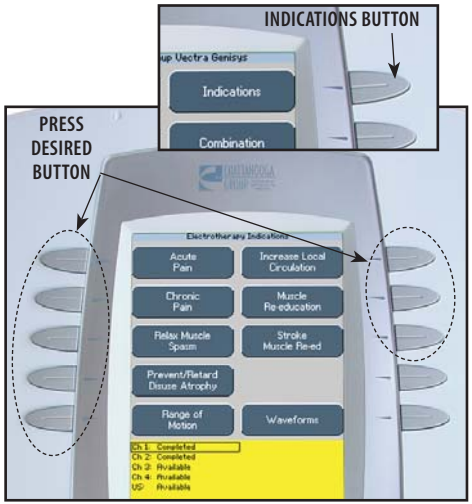
Prepare Patient

Refer to **pages 32 through 35** for electrode selection, preparing patient, and securing electrodes.

Select Indication

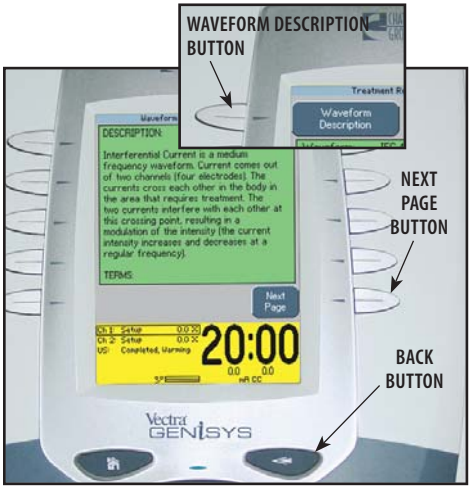
Press the Indications button on the Home screen.

Press the corresponding button beside the desired Indication.



View Waveform Description

Press the Waveform Description button to view text explaining the waveform rationale.

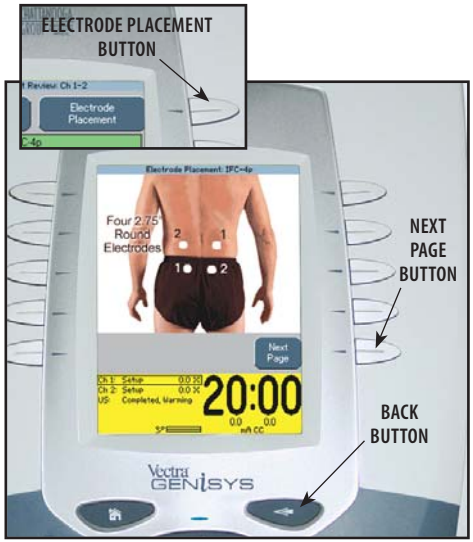

WAVEFORM DESCRIPTION BUTTON
Waveform Description
DESCRIPTION:
Interferential Current is a medium frequency waveform. Current comes out of two channels (four electrodes). The currents cross each other in the body in the area that requires treatment. The two currents interfere with each other at this crossing point, resulting in a modulation of the intensity (the current intensity increases and decreases at a regular frequency).
TERMS:
Next Page
NEXT PAGE BUTTON
20:00
BACK BUTTON
Vectra GENISYS

Press the Next Page button to view additional text. Press the Back button to return to the Treatment Review screen.

INDICATIONS (CONTINUED)

View Electrode Placement

Press the Electrode Placement button to view the most commonly used electrode placement for the waveform selected.

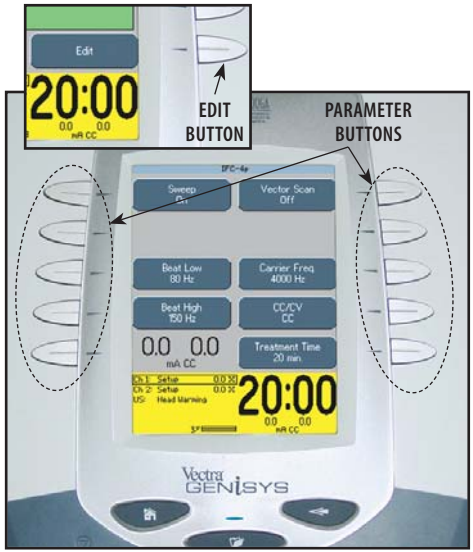


Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Edit Waveform Parameters

Press Edit button to access waveform parameters.

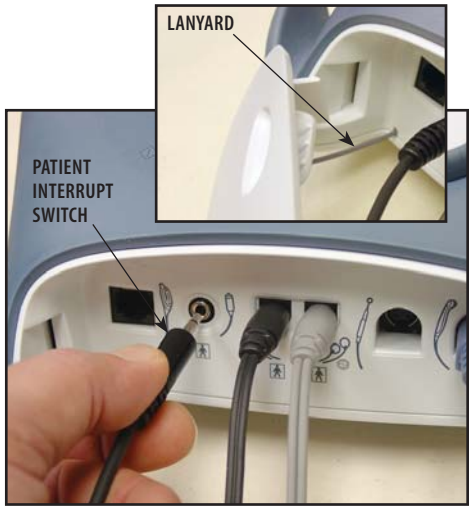
Press the corresponding button to edit each parameter as prescribed.



Press the Back button to return to the Treatment Review screen.

Install Optional Patient Interrupt Switch

Make certain the Patient Interrupt Switch is connected to the unit. Refer to **page 16** for Symbol Definitions.

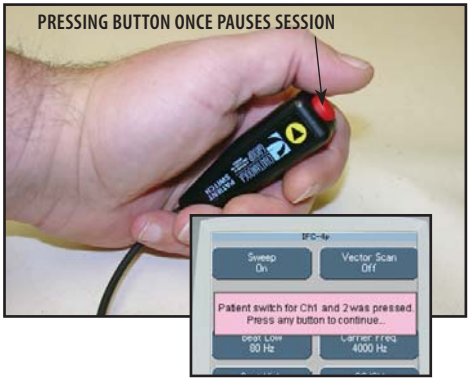


NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

INDICATIONS (CONTINUED)

Optional Patient Interrupt Switch

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.

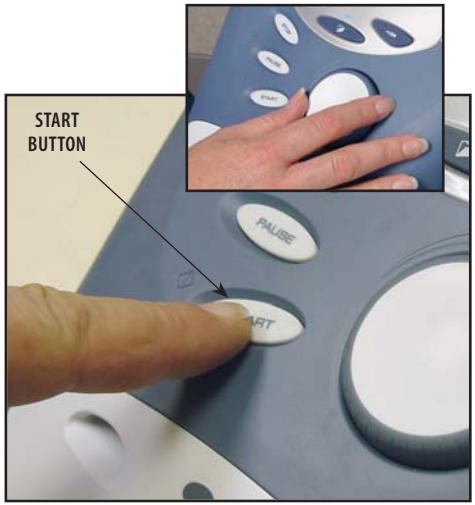

PRESSING BUTTON ONCE PAUSES SESSION
Sweep On
Vector Scan Off
Patient switch for Ch1 and 2 was pressed. Press any button to continue...
Beat Low 80 Hz
Carrier Freq 4000 Hz

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

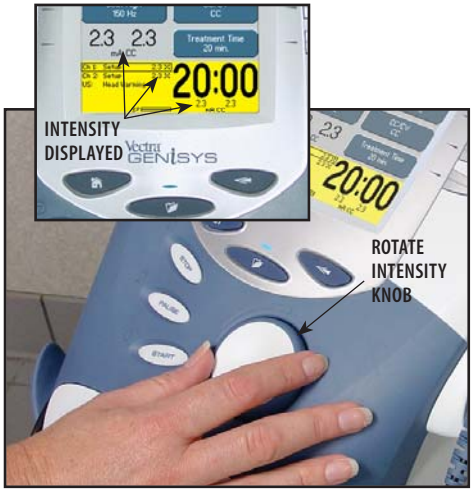
NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Reset intensity and press the Start button to resume session.



Setting Waveform Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.



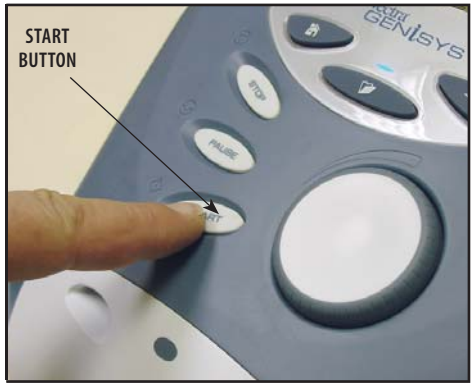
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

INDICATIONS (CONTINUED)

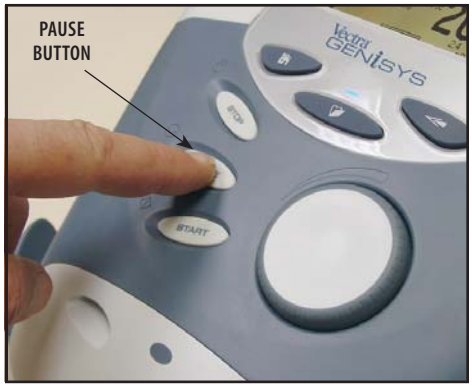
Start Treatment

Press the Start button to begin therapy session.



Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

INDICATIONS (CONTINUED)

Editing Parameters during Treatment Session

The parameters may be edited during a treatment session without pausing or stopping the treatment.

Refer to **page 48** for parameter changes to electrotherapy waveforms and currents and **page 52** for editing Ultrasound.

NOTE: The intensity can be increased or decreased by rotating the Intensity Knob as desired without pressing the Edit button.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. **Refer to pages 80 through 89** for Patient Data Card Setup and use.

COMBINATION

The Vectra Genisys Therapy System Combination modality allows the user to select and use ultrasound therapy in combination with electrical muscle stimulation.

Combination therapy utilizes the Ultrasound modality in conjuction with High Voltage Pulsed Current (HVPC), IFC (4p), IFC Premodulated (2p), Asymmetrical Biphasic, Symmetrical Biphasic or VMS™ to generate a therapeutic effect. In this mode of therapy, the Sound Head of the Ultrasound Applicator becomes one half of the electrical circuit. An electrode attached to the Black (-) Lead Wire completes the circuit.

Prepare Patient

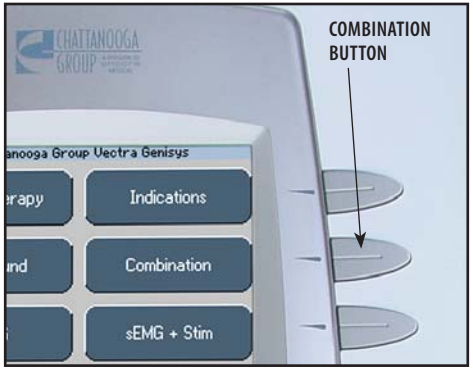
Refer to **pages 32 through 35** to prepare patient, select electrode, and securing electrodes. Refer to **page 36** for Ultrasound patient preparation.

Connect the Black (-) Lead Wire from Channel 2 to the electrode. Make certain the Lead Wire is completely seated in the electrode.

The Red (+) Lead Wire is not used. The Ultrasound Applicator completes the circuit for Combination Therapy.

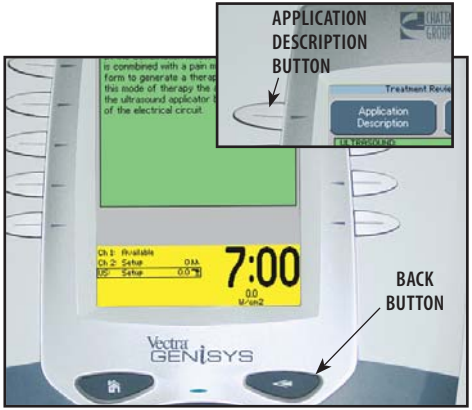
Select Modality

Press the Combination button on the Home screen.



View Application Description

Press the Waveform Description button to view text explaining the waveform rationale.

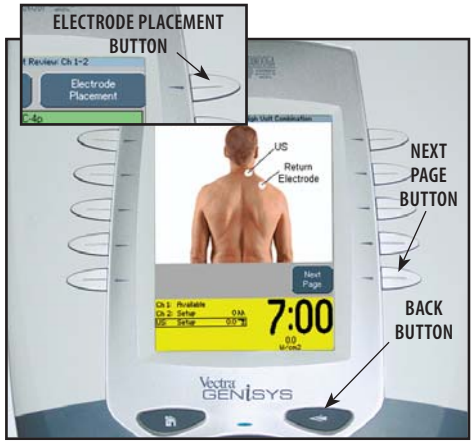


Press the Back button to return to the Treatment Review screen.

COMBINATION (CONTINUED)

View Electrode Placement

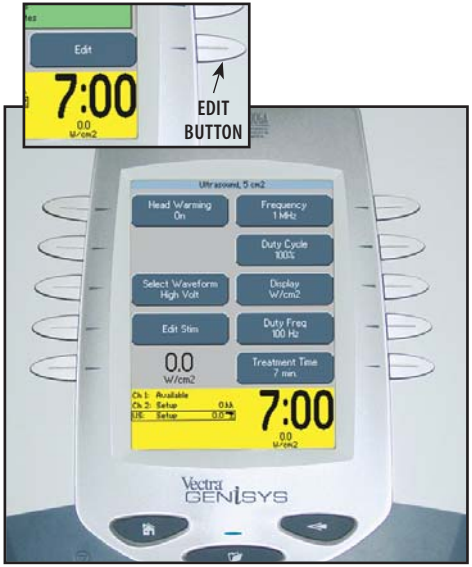
Press the Electrode Placement button to view the most commonly used electrode placement for Combination therapy.



Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Access Combination Parameters

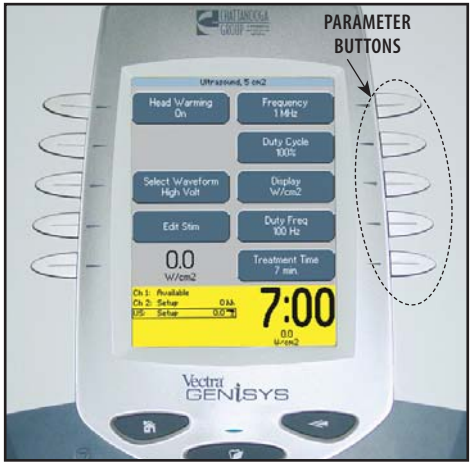
Press Edit button to access Combination parameters.



Press the Back button to return to the Treatment Review screen.

Edit Ultrasound Parameters

Press the corresponding button to edit the desired Ultrasound parameter as prescribed.

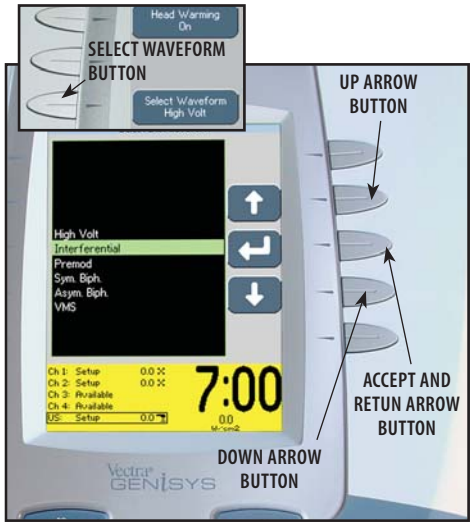


NOTE: See **page 50** for Head Warming feature instructions.

COMBINATION (CONTINUED)

Select Waveform

Press the Select Waveform button.

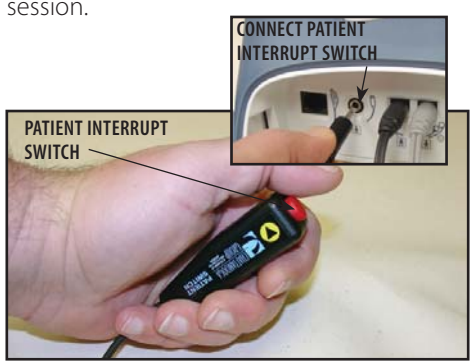


Press the Up or Down Arrow buttons until the prescribed waveform is highlighted.

Press the Accept and Return Arrow button.

Optional Patient Interrupt Switch

Connect Patient Interrupt Switch to the Therapy System. Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

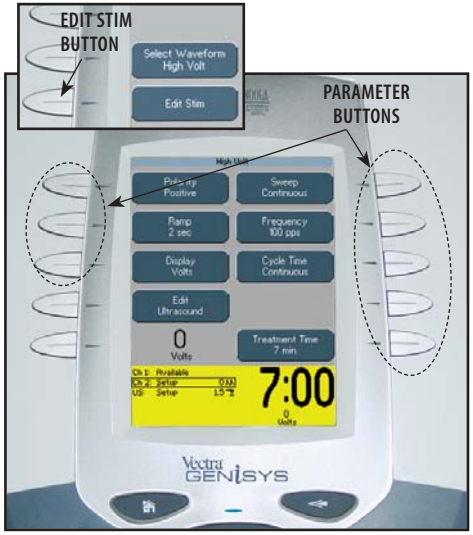
Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen, and the treatment will remain paused.

Edit Waveform Parameters

Press the Edit Stim button to edit the parameters of the waveform selected.

Press the corresponding button to edit each parameter as prescribed.



COMBINATION (CONTINUED)

Set Waveform Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

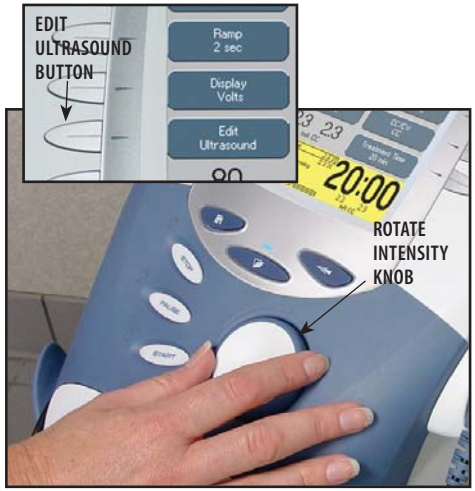
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Set Ultrasound Intensity

Press the Edit Ultrasound button.

Set Ultrasound intensity by rotating the Intensity Control Knob to the prescribed level.



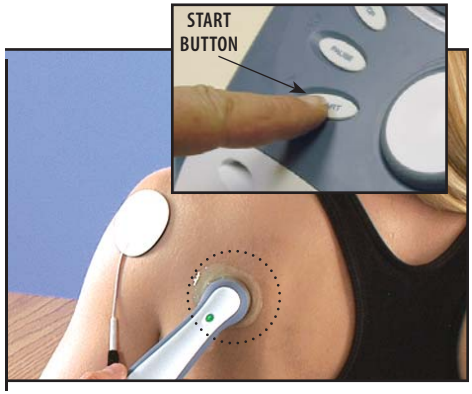
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

Press the Start button to begin therapy session.

Move the Applicator in a circular motion on the treatment area.

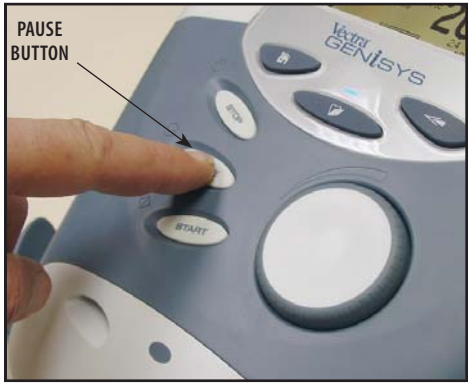


NOTE: If US Coupling is On and the Sound Head loses coupling with the treatment area the session will pause. When coupling is re-established, the session will automatically restart.
See **page 29** for US Coupling settings.

COMBINATION (CONTINUED)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

ADJUSTING COMBINATION PARAMETERS DURING TREATMENT

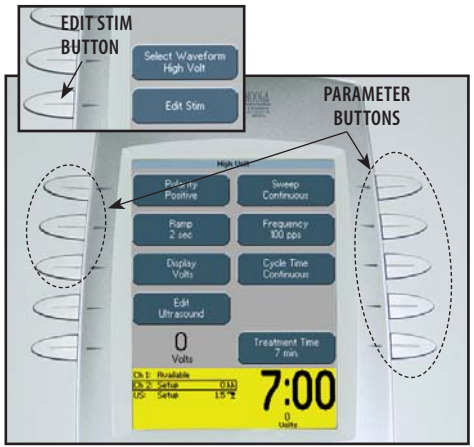
The channel parameters may be changed during a treatment session without pausing or stopping the treatment. The following information provides instructions for changing Combination Treatment Electrotherapy Channel and Ultrasound parameters during a treatment session.

Edit Waveform Parameters

Press the Edit Stim button to edit the parameters of the waveform selected.

Press the corresponding button to edit each parameter as prescribed.

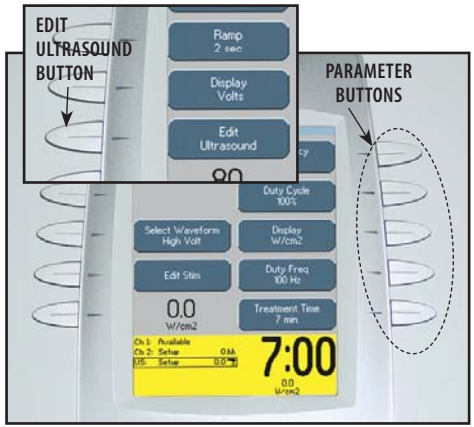
Rotate the Intensity Knob to increase or decrease waveform intensity as prescribed.



Edit Ultrasound Parameters

Press the Edit Ultrasound button.

Press the corresponding button to edit the desired Ultrasound parameter as prescribed.



NOTE: See **page 50** for Head Warming feature instructions.

NOTE: To edit parameters from the Home screen, see **page 48** for selecting channel instructions.

sEMG+STIM THERAPY SET UP

General Information

The Vectra Genisys sEMG + Stim modality utilizes sEMG biofeedback activity coupled with triggered electrical muscle stimulation using selected electrotherapy waveforms for the maximum benefit in muscle retraining. The sEMG + Stim will not function as a multi-channel modality. It is designed for single channel use only. However, it is available to all electrotherapy channels.

The Electrical Muscle Stimulation is triggered when the muscle contraction (sEMG portion of the therapy) reaches the target. sEMG stops and the muscle is then electrically stimulated for a period. After stimulation, the patient is given a short rest period and then repeats the muscle contraction, attempting to reach the target to again trigger the electrical stimulation. This is repeated throughout the therapy session.

Session parameters can be stored on a Patient Data Card. The Patient Data Card can be used with the optional Patient Data Management System for adding session notes and printing reports. Several sessions can be stored on a Patient Data Card. Any of the sessions stored on the Patient Data Card can be recalled in the Therapy System for future use.

It is recommended that each patient be assigned a Patient Data Card. Refer to the Vectra Genisys User Manual for Patient Data Card set up and use instructions.

The sEMG portion of sEMG + Stim modality is used to force the patient to contract the muscle to a prescribed target. The data cannot be recorded or stored on the Patient Data Card or the sEMG Data Card.

NOTE: This section applies only to models capable of supporting the functions of the sEMG module.

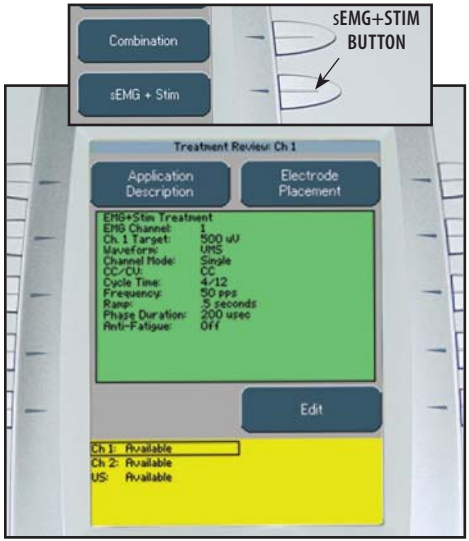
sEMG+STIM THERAPY SET UP (CONTINUED)

Prepare System and Patient

Prepare Therapy System and patient. Refer to **pages 37 through 40**.

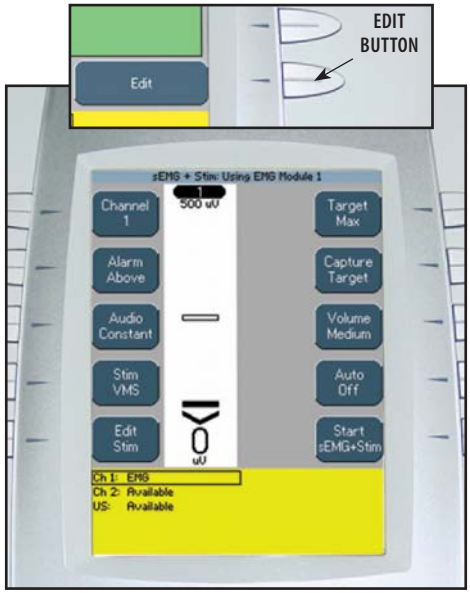
Select sEMG + Stim Modality

Press the sEMG + Stim button on the Home screen.



Select Edit

Press the Edit button on the Treatment Review screen to edit sEMG + Stim parameters as prescribed.

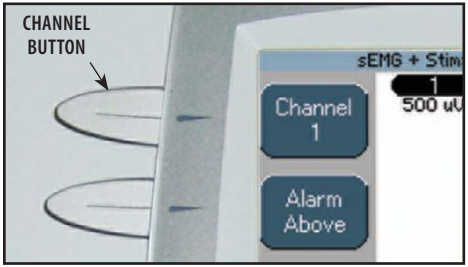


Select Channel

Press the Channel button until the prescribed channel is displayed in the icon.

Therapy System
Available selections are 1 or 2.

Channel 3/4 Electrotherapy Module
Available selections are 3 or 4.



NOTE: The sEMG + Stim will not function as a multi-channel modality. It is designed for single channel use only. However, it is available to all electrotherapy channels.

sEMG + STIM THERAPY SET UP (CONTINUED)

Set Alarm

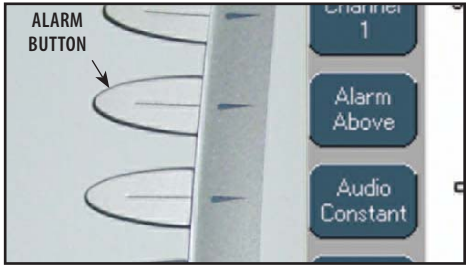
Set the alarm trigger in relation to the target by pressing the Alarm button until the desired selection is displayed in the Alarm icon.

The available selections are:

Above- Alarm sounds when a muscle contraction surpasses the target.

Target- Alarm sounds when a muscle contraction reaches the target.

Below- Alarm sounds when a muscle contraction is below the target.



NOTE: If Volume is Off, no alarm will be heard.

Set Audio Type

Audio sets the type of sound heard when the muscle contraction reaches the Alarm setting.

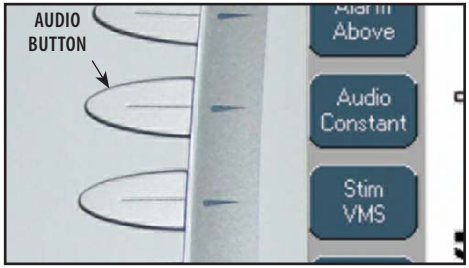
Press the Audio button until the desired audio type is displayed in the Audio icon.

The available selections are:

Constant- Continuous sound. _____

Pulsed- Fast, short beeps. . . . . .

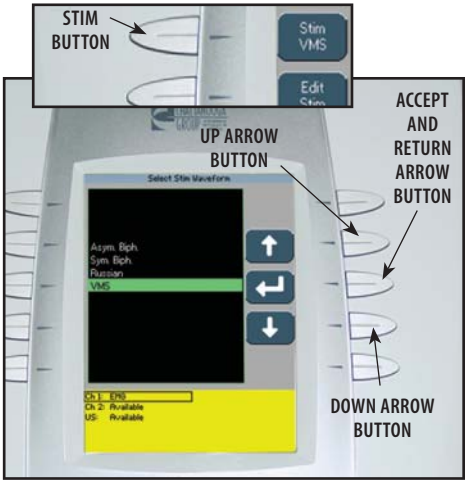
Dynamic- Slow, long beeps. _ _ _ _ _ _



NOTE: If volume is Off, no Audio type will be heard.

Select Stim Waveform

Press the Stim button.



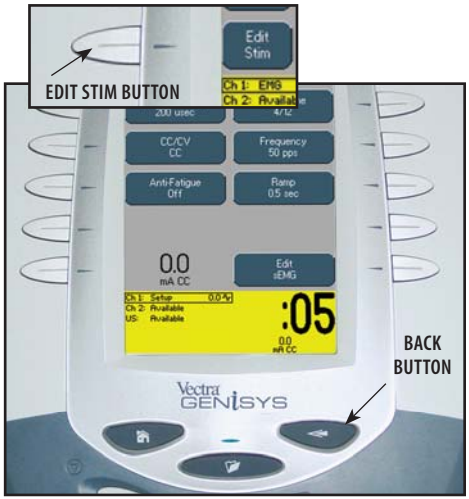
Press the Up and Down Arrow buttons until the prescribed waveform is highlighted.

Press the Accept and Return Arrow button.

sEMG + STIM THERAPY SET UP (CONTINUED)

Edit Stim

Press the Edit Stim button.



Refer to page 45 for Stim Editing procedures.

After editing is complete, press the Back button.

NOTE: Stim treatment time is fixed and cannot be changed.

Select Target Option

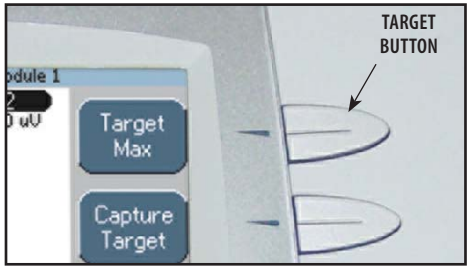
Three options are available for setting the sEMG modality target:

Max- Maximum of muscle contractions in 10 seconds.

Avg- Average of maximums achieved in 15 seconds of muscle contractions.

Manual- Set Target manually.

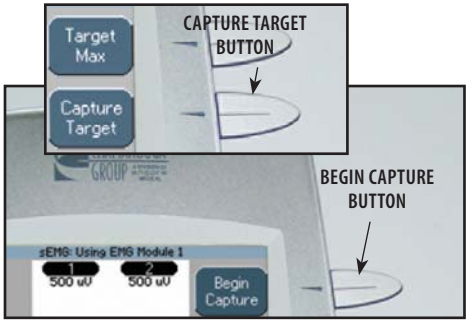
Press the Target button until the prescribed target option is displayed in the Target icon.



Setting Max Target

Make certain Target Max is displayed in the Target icon.

Press the Capture Target button. Have the patient begin contracting the muscle and press the Begin Capture button. Patient should contract the muscle as hard as possible during the preset 10 second contraction period.



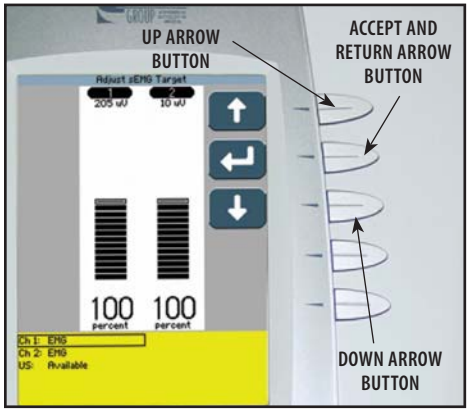
NOTE: The capture may be stopped by pressing the End Capture button. The System will then select the maximum contraction level achieved during the preset 10 second contraction period.

sEMG + STIM THERAPY SET UP (CONTINUED)

During the preset 10 second contraction period, the Therapy System captures and retains the maximum level of the contraction the patient performed, then automatically displays the Adjust sEMG Target screen.

Use the Up and Down Arrow buttons to adjust the Target percentage displayed at the bottom of each channel column.

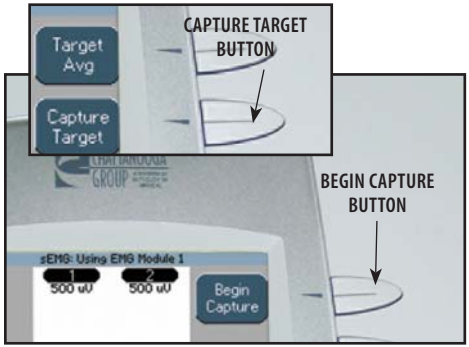
Press the Accept and Return Arrow button to set the Target.



Setting Avg Target

Make certain Target Avg is displayed in the Target icon.

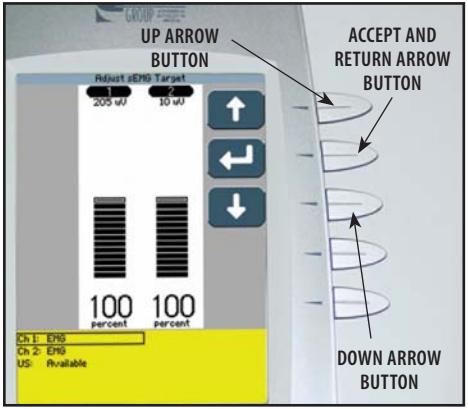
Press the Capture Target button. Have the patient begin contracting and releasing the muscle. Press the Begin Capture button. The patient should contract and release the muscle as many times as possible during the preset 15 second contraction period.



During the preset 15 second contraction period, the Therapy System captures and retains the average maximum level of the contractions the patient performed, then automatically displays the Adjust sEMG Target screen.

Use the Up and Down Arrow buttons to adjust the Target percentage displayed at the bottom of each channel column.

Press the Accept and Return Arrow button to set the Target.

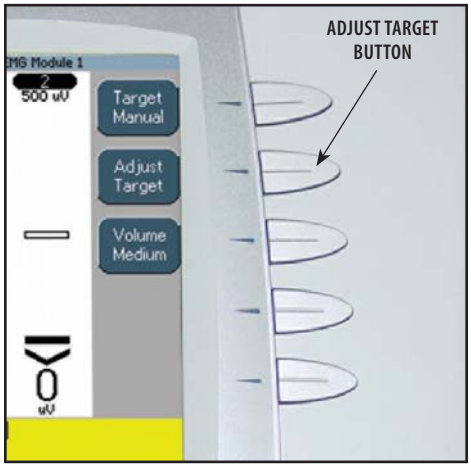


sEMG + STIM THERAPY SET UP (CONTINUED)

Setting Manual Target

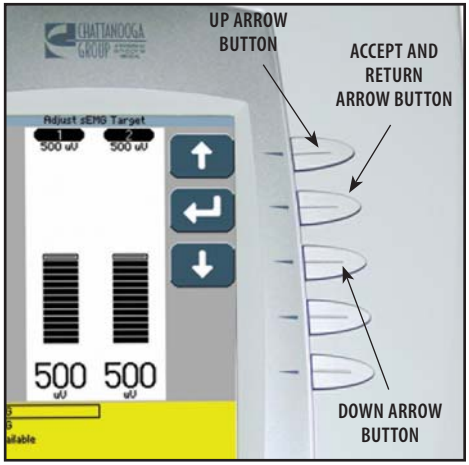
Make certain Target Manual is displayed in the Target icon.

Press the Adjust Target button.



Press the Up and Down Arrow buttons to adjust Target to prescribed level.

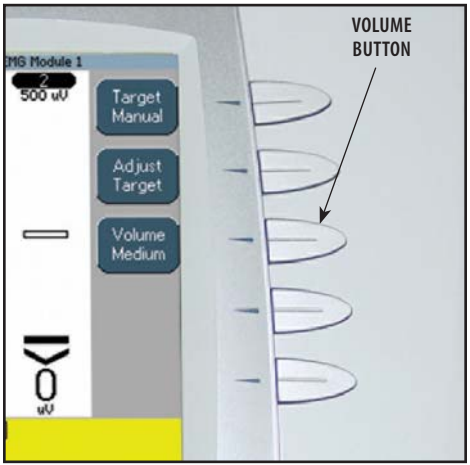
Press the Accept and Return Arrow button.



Set Volume

Press Volume button until the desired volume level is displayed in the Volume icon.

The available volume levels are Low, Medium, High, and Off.



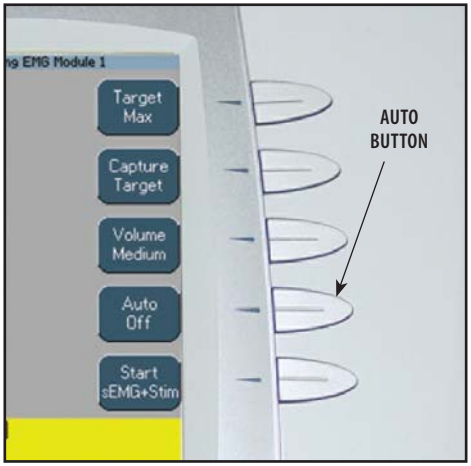
NOTE: If Volume is Off, no alarm will be heard when contraction reaches the target setting.

sEMG + STIM THERAPY SET UP (CONTINUED)

Set Auto Feature

The sEMG + Stim Auto feature is designed to work in conjunction with the Target settings. When On, the Auto feature will automatically adjust the maximum target as the patient fatigues.

Press the Auto button until Off or On is displayed in the Auto icon.

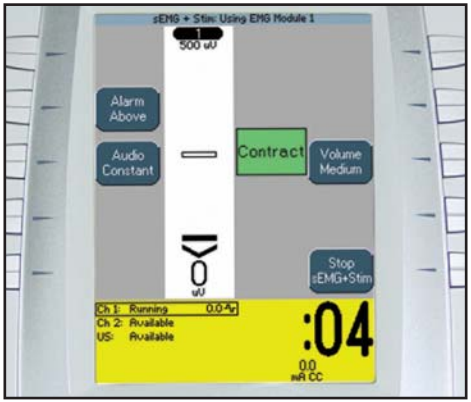


Start sEMG Therapy Session

After all parameters for sEMG and Stim have been completed, press the Start sEMG + Stim button.

Have patient perform contractions as prescribed.

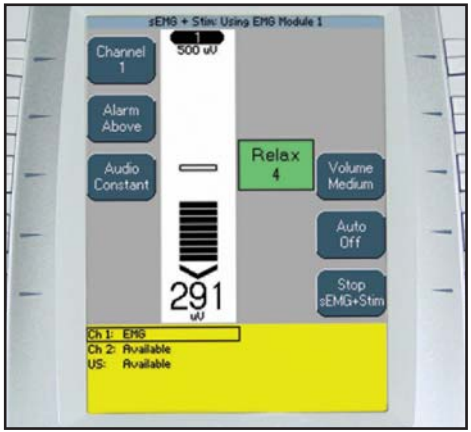
When the contraction reaches the target, the alarm will sound, the screen will change and Stim will begin. The patient should hold the contraction throughout the short period of Stim.



NOTE: The Stim Intensity may be adjusted only during the Stim portion of the sEMG + Stim therapy session.

sEMG + STIM THERAPY SET UP (CONTINUED)

After Stim is complete, the screen will change and the patient should relax the contraction.

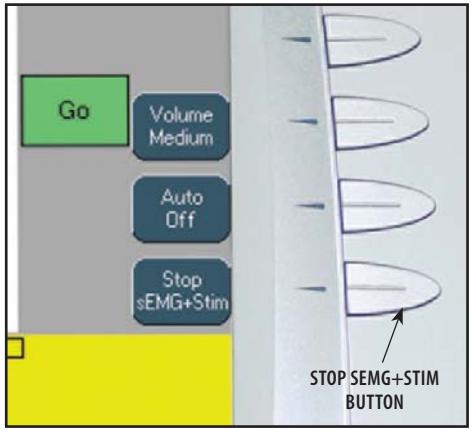


After the Relax period is complete the screen will change to Go.

Repeat the process throughout the prescribed treatment time or until the patient is fatigued.

Stopping Stim

Stim may be stopped at any time during the session by pressing the Stop sEMG + Stim button.

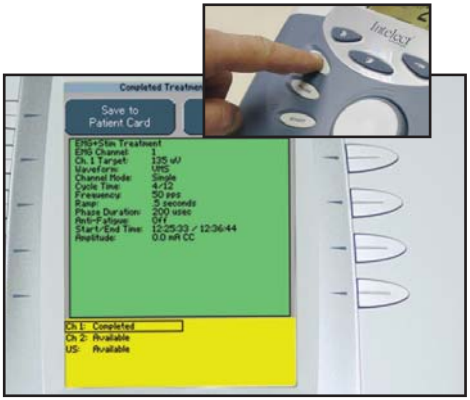


Stim may be restarted at any time during the session by pressing the Start sEMG + Stim button.

NOTE: With Stim Off, the sEMG portion of the session may continue.

Stopping Therapy Session

Press the Stop button. The Completed Treatment Review screen will display.



NOTE: Refer to pages 80 through 89 for Patient Data Card set up and use.

The sEMG Data Card cannot be used to save session parameters.

sEMG data, from an sEMG + Stim therapy session, cannot be recorded to a sEMG Data Card or Patient Data Card.

PATIENT DATA CARD- SET UP OF NEW CARD

General Information

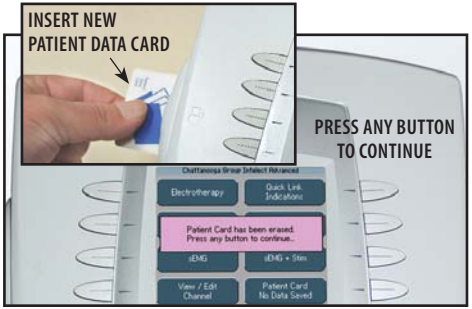
The Vectra Genisys Therapy System incorporates a Patient Data Card reading and recording device that allows transfer of patient therapy data from the system to the card for reviewing patient modality and pain profile information. Information may be transferred to a PC via the optional Patient Data Management System. The PC software is designed to allow easy access to patient data and printing of reports as well as adding session notes to the Patient Data Card.

The reading and recording device allows storage and recall of the following patient session data onto the Patient Data Card: Therapy Session Parameters, Electrode Placement, Pain Map, Numeric Pain Scale or Visual Pain Scale, and Session Notes (stored on card via PC only). Each Patient Data Card can store multiple sessions and each session can be recalled on the Vectra Genisys Therapy System.

Insert New Patient Data Card

Insert a new Patient Data Card into the system access port as shown below. The Therapy System will automatically format the new Patient Data Card and a verification message will appear.

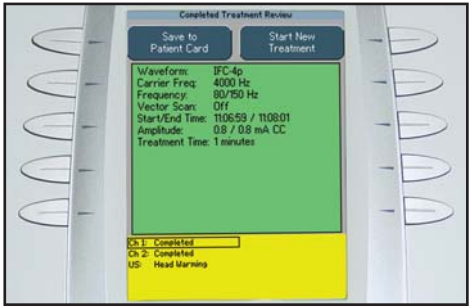
Press any button to continue.



Set Up Treatment

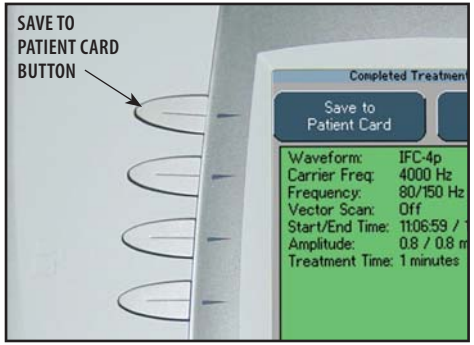
Set up the patient's prescribed treatment. Refer to the appropriate area of this manual for modality set up.

Administer treatment as prescribed. When treatment is complete, the Treatment Review screen will be visible.



Set Up of New Patient Data Card

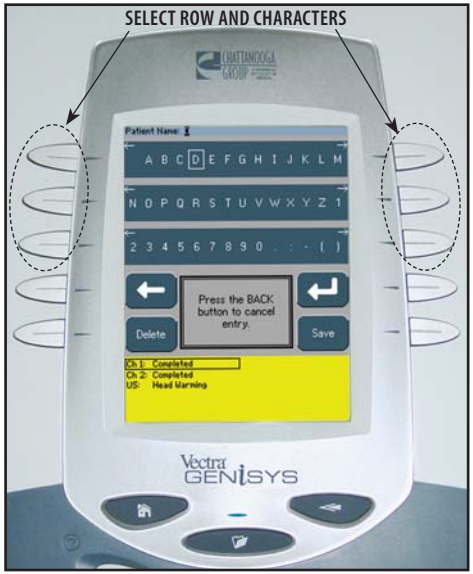
With new Patient Data Card inserted in the system, press the Save to Patient Card button.



PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

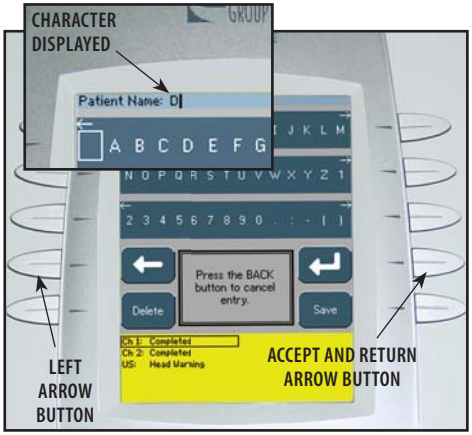
Enter Patient ID

Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.


SELECT ROW AND CHARACTERS
Patient Name:
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
Ch 1: Completed
Ch 2: Completed
US: Head Warming
Vectra GENISYS

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.



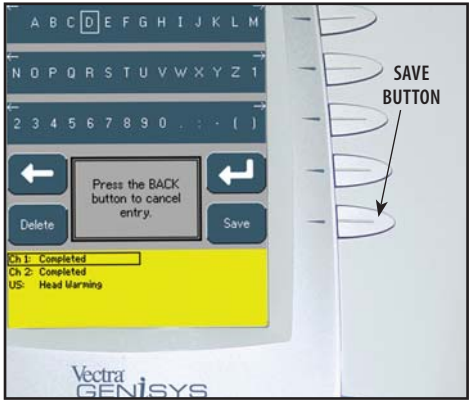
NOTE: To add a space, select the area to the left of the letter A.

To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired Patient ID is entered.

After Patient ID is entered, press the Save button.

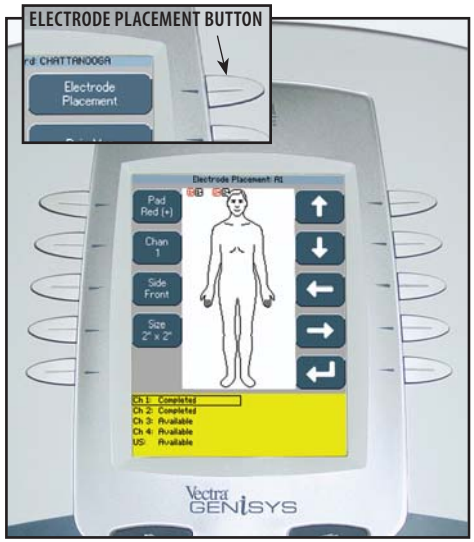

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
SAVE BUTTON
Ch 1: Completed
Ch 2: Completed
US: Head Warming
Vectra GENISYS

PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

Access Electrode Placement

The following information uses an IFC Treatment as an example. Electrode Placement procedures for all modalities are performed in the same basic fashion.

Press the Electrode Placement button.



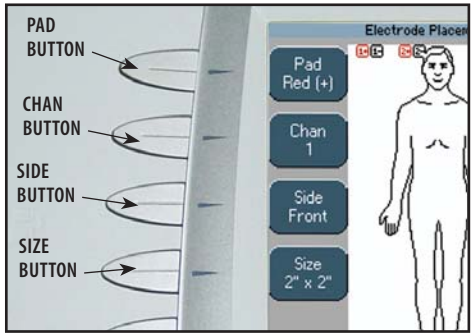
Electrode Placement Set Up

Press the Pad button to select the Red (+) or Black (-) electrode.

Press the Chan button to select Channel 1 or Channel 2.

Press the Side button to select Front, Back, Left, or Right of the body graphic.

Press the Size button until desired electrode size is displayed. If electrode desired is not listed, select Other.



NOTE: When Ultrasound is the modality, only the Side button is available.

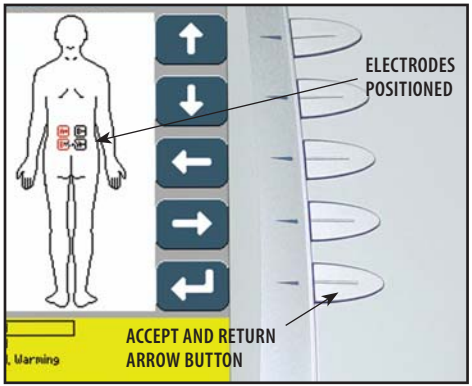
Electrode Placement

Press the Up, Down, Left and Right Arrow buttons to position the selected electrode as close to the actual treatment location as possible.

Press the Pad button to select the other electrode. Repeat above procedure for electrode positioning.

If applicable, press the Chan button to select another channel and repeat above procedures.

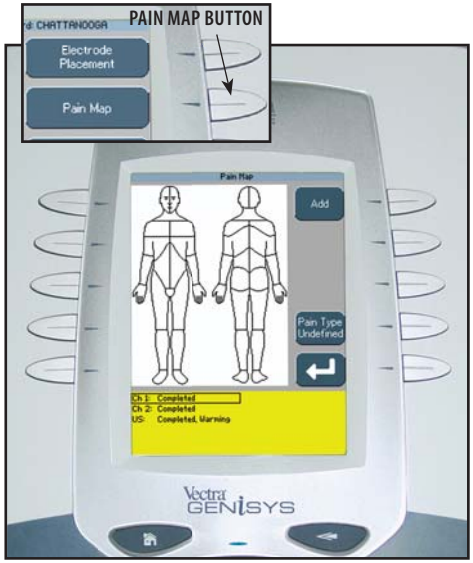
After positioning the electrodes, press the Accept and Return Arrow button.



PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

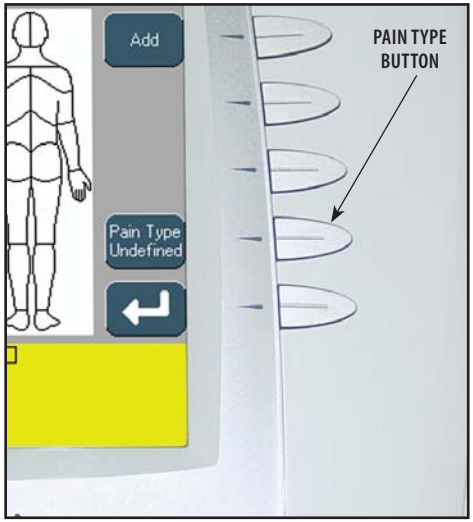
Access Pain Map

Press the Pain Map button to select the body area of the associated pain as described by the patient.



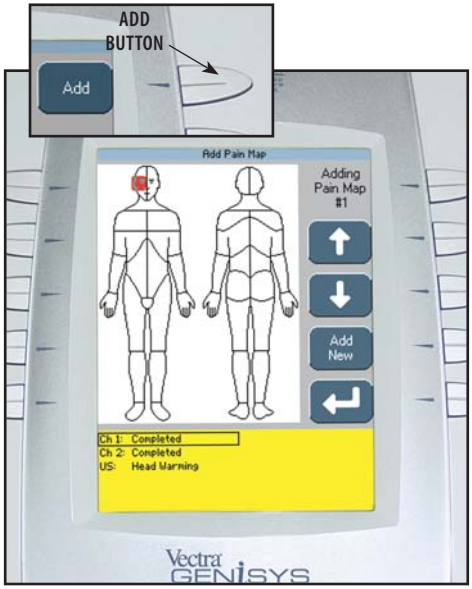
Select Pain Type

Press the Pain Type button until the desired description is displayed in the Pain Type icon.



Add Pain Locations

Press the Add button. The Add Pain Map window will display.



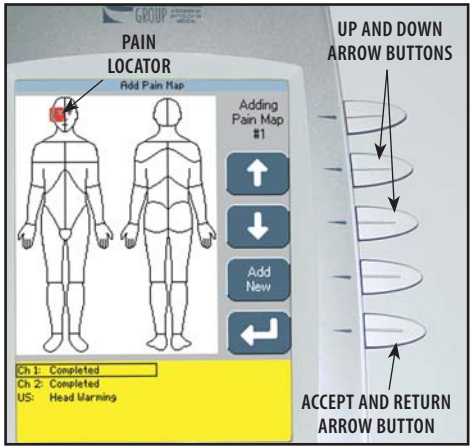
NOTE: A maximum of eight Pain Locations may be selected.

PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

Select Location of Pain

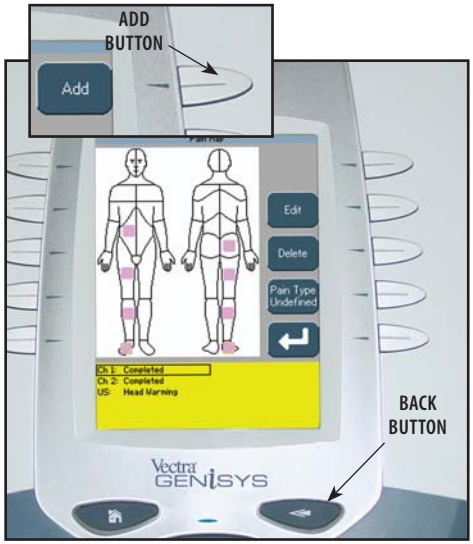
Press the Up and Down Arrow buttons to move the Pain Locator to the area of the body where the pain is located.

Press the Accept and Return Arrow button. The Pain Map window will display.



Press the Add button to continue selecting, in sequence, the radiating path of the pain using the above procedure.

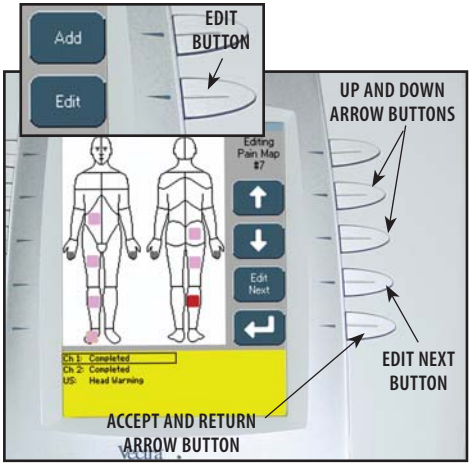
Up to eight pain locations may be selected.



After all desired Pain Locations have been made, press the Back button.

Editing Pain Locations

Press the Edit button on the Pain Map window.



Press the Edit Next button to highlight the Pain Location to be edited.

Use the Up and Down Arrow buttons to relocate the selected Pain Location.

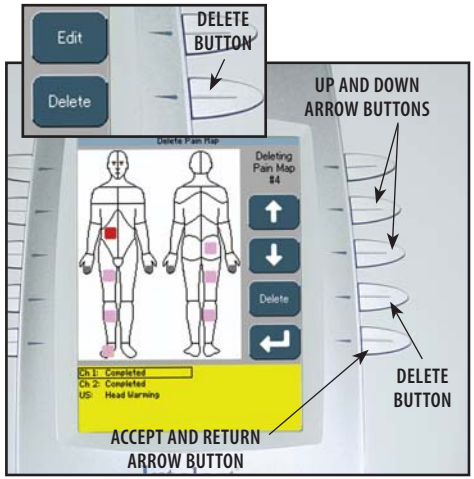
Press the Accept and Return Arrow button.

Repeat until all editing is complete, then press the Back button.

PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

Deleting Pain Locations

Press the Delete button on the Pain Map window.



Use the Up and Down Arrow buttons to highlight the Pain Location to be deleted.

Press the Delete button.

Press the Accept and Return Arrow button.

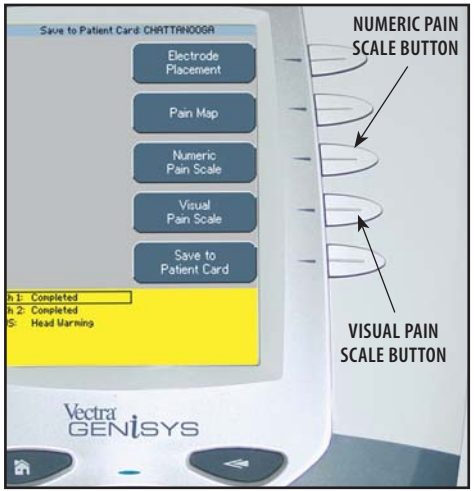
Repeat until all editing is complete, then press the Back button.

Pain Scales

The Vectra Genisys Therapy System incorporates two internationally recognized Pain Scales: one, VAS (Visual Analog Scale) has no indicator marks and, two, Numeric Scale (indicated 1 through 10). Use either of these for describing the amount of pain the patient is experiencing. When either pain scale is set, the other will automatically set to the corresponding level.

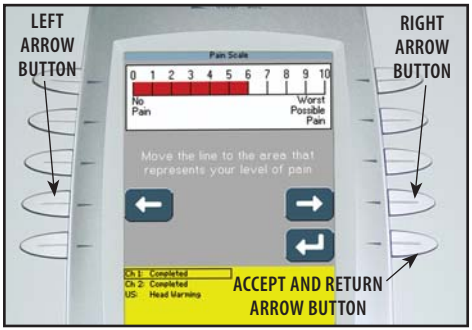
Select Pain Scale

Select the desired Pain Scale by pressing the corresponding button.



Adjust Pain Scale

Press the Left and Right Arrow buttons to adjust the Pain Scale to the level the patient is experiencing.


LEFT ARROW BUTTON
RIGHT ARROW BUTTON
Pain Scale
0 1 2 3 4 5 6 7 8 9 10
No Pain
Worst Possible Pain
Move the line to the area that represents your level of pain
ACCEPT AND RETURN ARROW BUTTON

After the desired level is achieved, press the Accept and Return Arrow button.

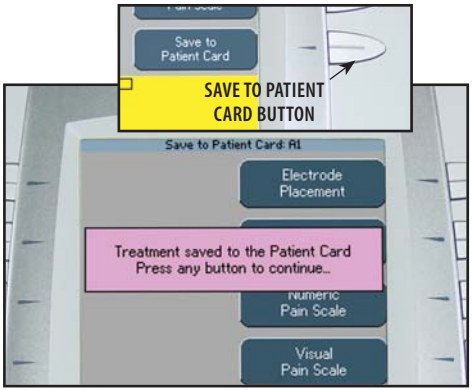
NOTE: Numeric Pain Scale illustrated.

PATIENT DATA CARD- SET UP OF NEW CARD (CONTINUED)

Save to Patient Data Card

After all desired session data has been entered in the Patient Data Card screens, press the Save to Patient Card button. A message will appear stating the data has been saved to the Patient Data Card.

Press any button.


Save to Patient Card
SAVE TO PATIENT CARD BUTTON
Save to Patient Card: A1
Electrode Placement
Treatment saved to the Patient Card
Press any button to continue...
Numeric Pain Scale
Visual Pain Scale

After pressing any button, the Completed Treatment Review screen will display.

Press the Home button.

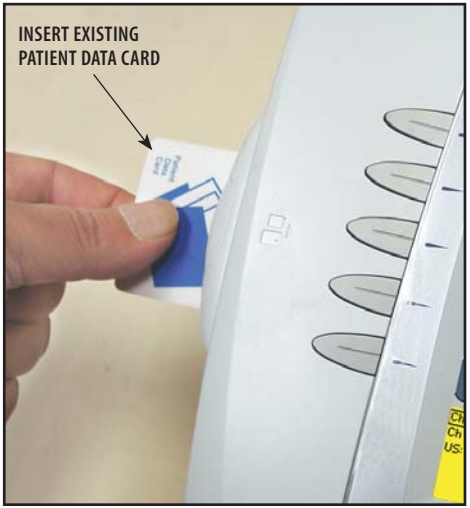
Remove the Patient Data Card for filing with patient records.

The Patient Data Card can also be used with the optional Patient Data Management System.

EXISTING PATIENT DATA CARD USE

Insert Existing Patient Data Card

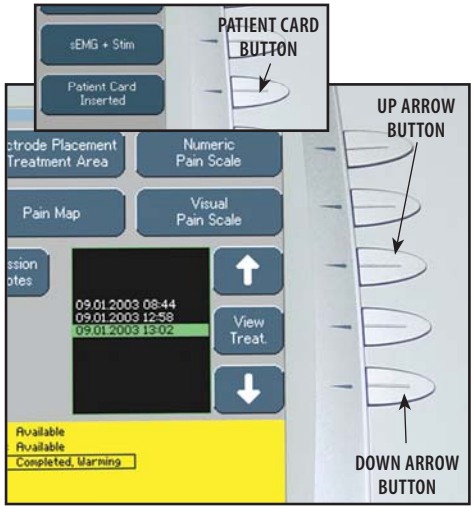
Insert the Patient Data Card assigned to the patient receiving treatment into the system access port as shown below.



Access Patient Data Card

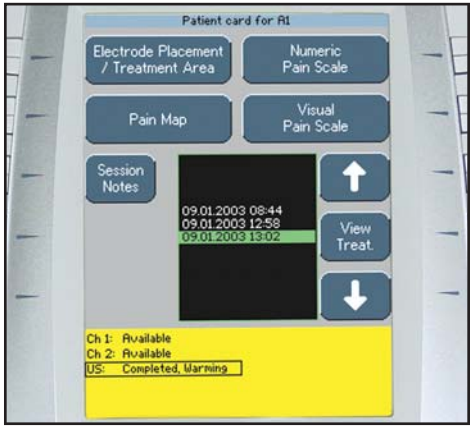
Press the Patient Card button to access Patient Data Card.

Select the date of the treatment session desired using the Up and Down Arrow buttons until date desired is highlighted.



View Patient Data Card

Press the corresponding button beside the Patient Data to be viewed.



NOTE: No Session Notes will be available unless the optional Patient Data Management System was utilized to enter Session Notes onto the Patient Data Card.

EXISTING PATIENT DATA CARD USE (CONTINUED)

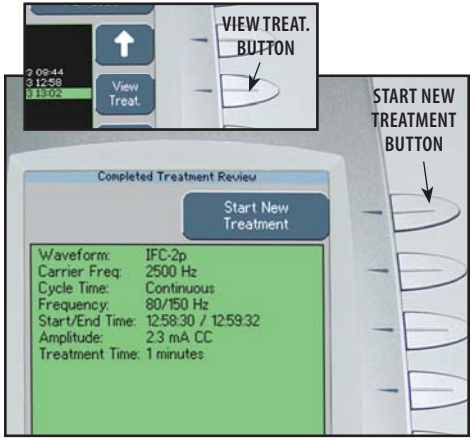
Starting a New Treatment from Patient Data Card

Refer to **pages 32-35** for Electrotherapy patient preparation, select electrodes, and secure electrodes. Refer to **page 36** for Ultrasound patient preparation.

Press the Up and Down Arrow buttons to highlight the desired treatment date and time.

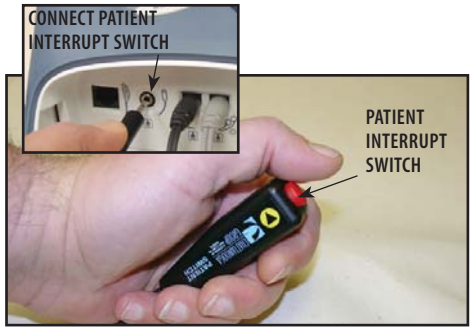
Press the View Treat. button.

Press Start New Treatment button.



Optional Patient Interrupt Switch

Connect Patient Interrupt Switch to the Therapy System. Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

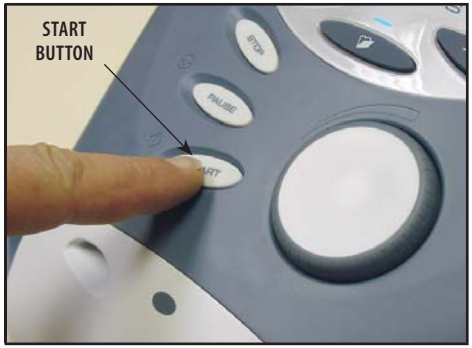
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

EXISTING PATIENT DATA CARD USE (CONTINUED)

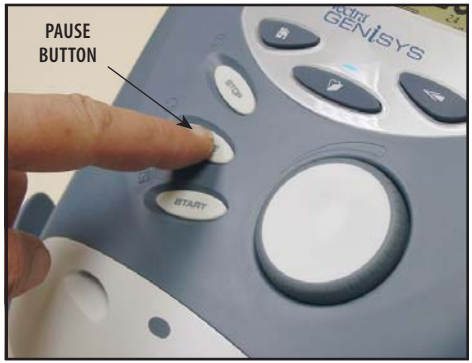
Start Treatment

Press the Start button to begin therapy session.



Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Erasing Patient Data Card

Refer to **page 28** for proper Patient Data Card Erasing instructions.

SET UP OF NEW sEMG DATA CARD

General Information

The Vectra Genisys Therapy System incorporates a sEMG Data Card that allows the recording of sEMG data from sEMG therapy sessions. After recording the sEMG data, it can be imported, saved to, and viewed through a Windows® PC equipped with the optional Patient Data Management System. The Patient Data Management System software and Card Reader are designed to allow importing and easy access to the sEMG data, printing of reports, adding session notes, and adding other sEMG specific information to the sEMG data through a Windows® PC.

The Therapy System sEMG Data Card allows recording only of the sEMG Data. No sEMG Data may be recorded from the PC and saved to the sEMG Data Card for use in the Therapy System. However, the sEMG session parameters may be saved to a Patient Data Card (refer to pages 80 through 89) and recalled in the Therapy System.

Each time an existing sEMG Data Card is used for another sEMG therapy session, the existing sEMG data is overwritten with the new session data.

It is recommended that each patient be assigned a sEMG Data Card. sEMG Data cannot be saved or recorded to the Patient Data Card.

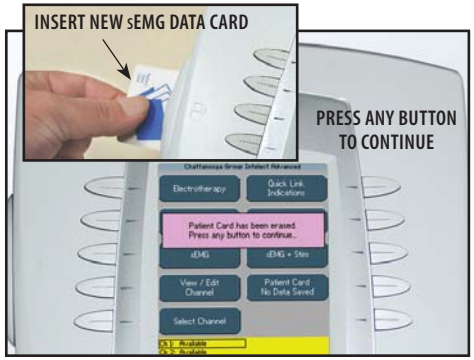
NOTE: This section applies only to models capable of supporting the functions of the sEMG module.

SET UP OF NEW sEMG DATA CARD (CONTINUED)

Insert New sEMG Data Card

Insert a new sEMG Data Card into the system access port as shown below. The Therapy System will automatically format the new sEMG Data Card and a verification message will appear.

Press any button to continue.



Prepare System and Patient

Prepare Therapy System and patient. Refer to **pages 37 through 40**.

Set Up sEMG Therapy Session

Set up the patient's prescribed sEMG therapy session. Refer to **pages 53 through 60** of this manual for sEMG modality set up.

Press the Setup sEMG Card button.

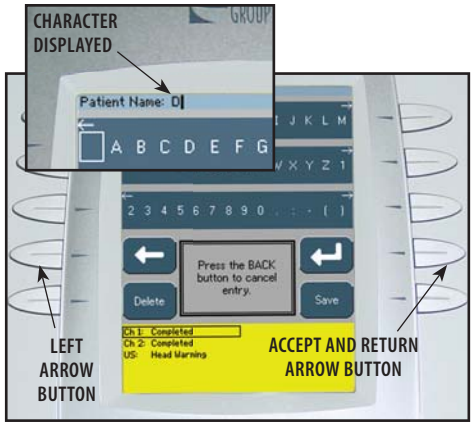
Enter Patient ID

Select the row of alpha or numeric characters by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.

SET UP OF NEW sEMG DATA CARD (CONTINUED)

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.



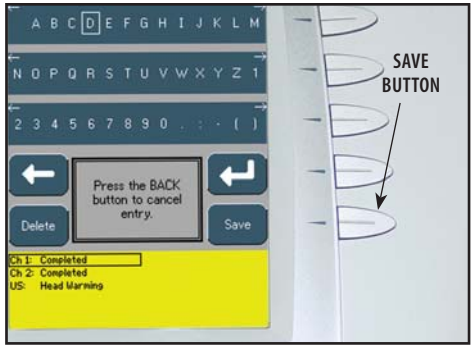
NOTE: To add a space, select the area to the left of the letter A.

To delete a character, press the Left Arrow button until the character to delete is framed. Press the Delete button.

To discard entire entry, press the back Button.

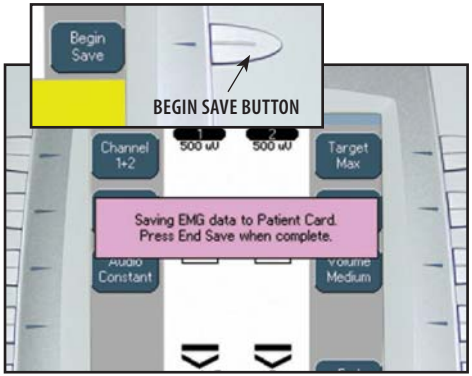
Repeat this procedure until the desired Patient ID is entered.

After Patient ID is entered, press the Save button.



Begin Save

Press the Begin Save button. A message will appear verifying that sEMG data is being recorded. After the message has been removed, have the patient perform the prescribed contractions.



End Save

To stop recording, press the End Save button.

The sEMG Data Card will record approximately 7 minutes of sEMG data.

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™

The Vectra Genisys Clinical Resources Library contains Clinical Protocols™, User Protocols, Sequencing functions, and access to the Multimedia Card (MMC) which contains the Anatomical and Pathological Libraries.

Clinical Protocols™

This library is a series of protocol presets where the Body Area, Clinical Indication, Pathological Condition and Pathological Severity are selected by the user, and the Clinical Protocols algorithm will select the parameter settings. These Clinical Protocols are to be used only as guidelines. Each patient should be individually assessed to determine the appropriateness of the protocol parameters prior to use. All Clinical Protocols can be edited to suit appropriate patient treatment prescription and patient comfort.

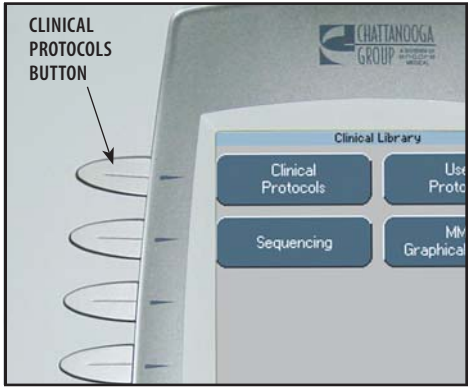
The following information gives general instructions to access, selection, and setup of Clinical Protocols. Each Clinical Protocol is set up and edited in the same basic manner.

Access Clinical Resources

Press the Clinical Resources Library button.

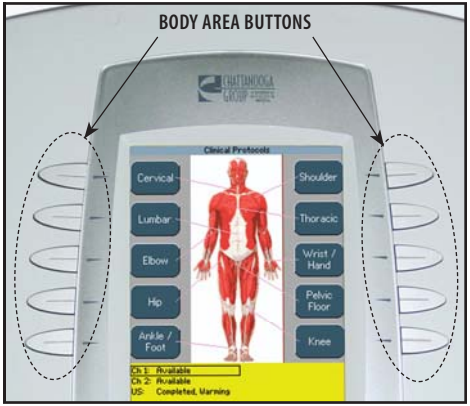
Access Clinical Protocols™

Press the Clinical Protocols button.



Select Body Area

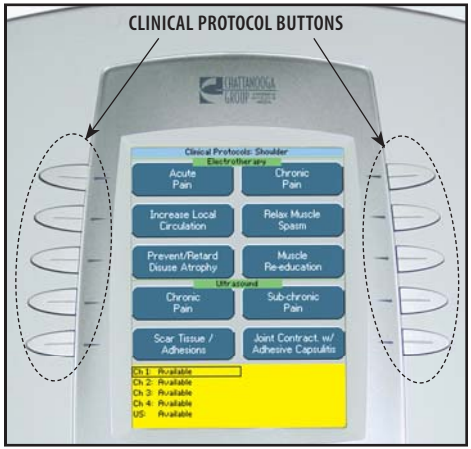
Press the button corresponding to the body area desired.



CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (CONTINUED)

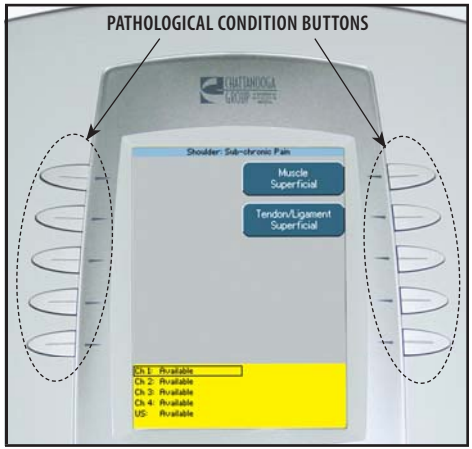
Select Clinical Indication

Press the button beside the Clinical Protocol desired in either the Electrotherapy or Ultrasound screen section.



Select Pathological Condition

Press the button beside the desired Pathological Condition.



Select Pathological Severity

Press the button beside the desired Pathological Condition.

NOTE: Not all Pathological Conditions have corresponding Pathological Severity windows. Some go directly to the associated modality Treatment Review screen.

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (CONTINUED)

View Waveform Rationale

Press the Waveform Rationale button (Electrotherapy Modalities) or the Parameter Rationale (Ultrasound Modality) to view the text explaining the rationale for the modality associated with the specific Clinical Protocol selected.

Press the Back button to return to the Treatment Review screen.

View Electrode Placement

Press the Electrode Placement button to view the specific electrode placement for the Clinical Protocol selected.

Press the Next Page button to view text relating to the electrode placement.

Press the Back button to return to the Treatment Review screen.

Prepare Patient

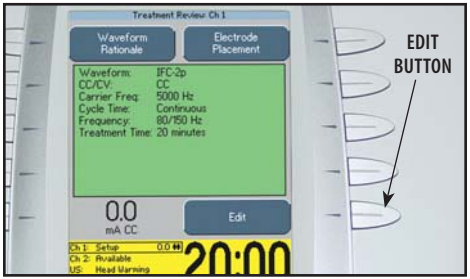
Refer to **pages 32 through 35** for Electrotherapy, and **page 36** for Ultrasound, patient preparation instructions. For sEMG and sEMG+Stim patient Preparation, refer to **pages 37 through 40**.

Edit Modality Parameters

Press the Edit button.

Edit modality parameters as prescribed. Refer to **page 45** for Electrotherapy modalities and **page 50** for Ultrasound.

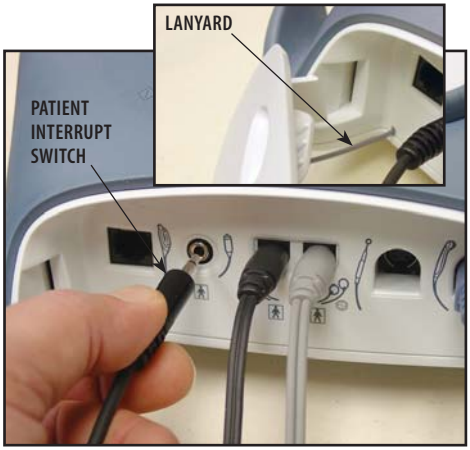
Refer to **pages 53 through 60** for sEMG modality set up and pages 72 through 79 for sEMG+Stim modality.



CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (CONTINUED)

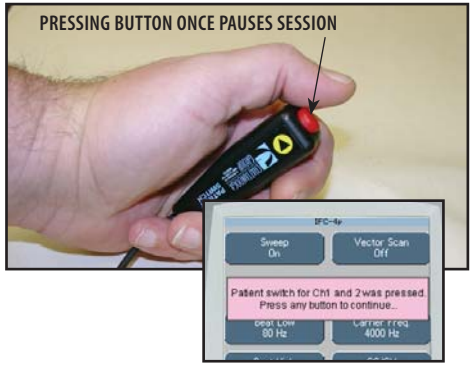
Optional Patient Interrupt Switch

Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to **page 16** for Symbol Definitions.



NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.


PRESSING BUTTON ONCE PAUSES SESSION
Sweep On
Vector Scan Off
Patient switch for Ch1 and 2 was pressed. Press any button to continue...
Beat Low 80 Hz
Carrier Freq. 4000 Hz

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Modality Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

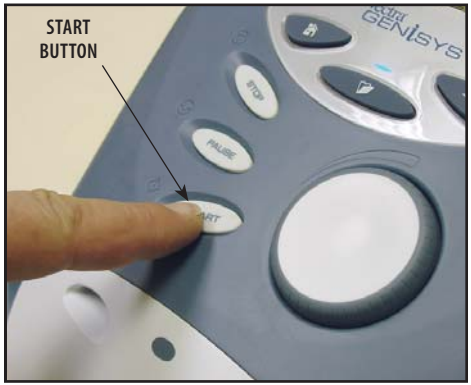
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (CONTINUED)

Start Treatment

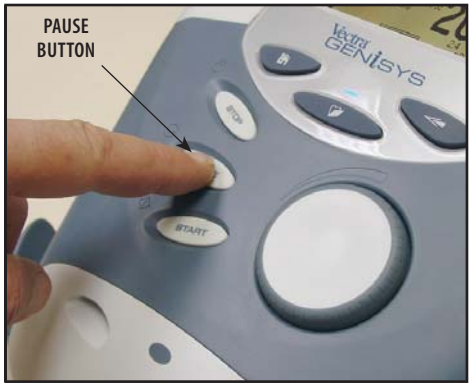
Press the Start button to begin therapy session.



NOTE: Modality parameters may be editied at any time during the therapy session. Refer to **page 48** for Electrotherapy and **page 52** for Ultrasound.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- CREATING USER PROTOCOLS

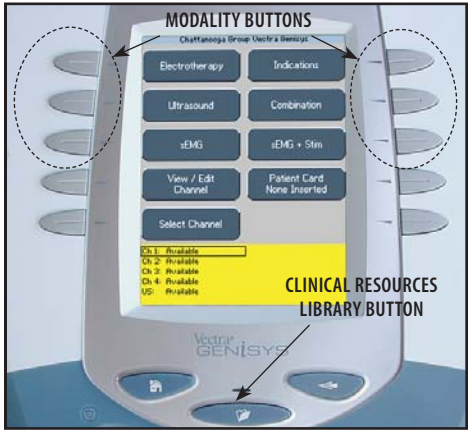
General Information

This library is a series of protocols created by the user and stored in the system memory. The following information gives general instructions as to setting up, saving, and accessing User Protocols. Should the Default Protocols be restored, through the User Utilities, all User Protocols will be permanently removed from the system.

The Therapy System memory will accommodate up to 200 user defined protocols. This is inclusive of all User Protocols, User Sequences, and System Default Protocols. It does not include the Clinical Protocols™.

Select Modality

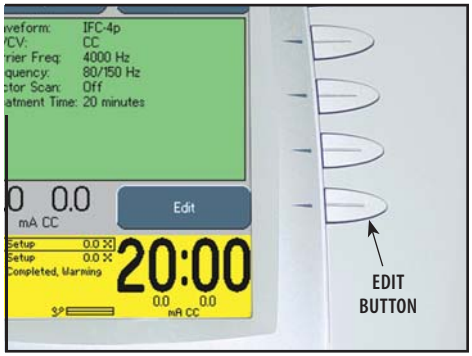
Press the button beside the desired modality on the Home screen or select a Clinical Protocol using the Clinical Resources Library button.



Edit Modality Parameters

Press the modality Edit button (usually in the lower right corner of the modality Treatment Review screen) and edit as prescribed.

Refer to respective sections of this manual for the specific modality prescribed.



Select Clinical Resources Library

Press the Clinical Resources Library button to begin the save process of the new User Protocol.

CLINICAL RESOURCES LIBRARY- CREATING USER PROTOCOLS (CONTINUED)

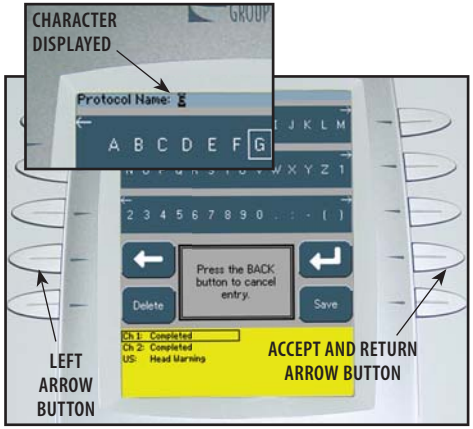
Enter User Protocol Name

Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.

SELECT ROW AND CHARACTERS
Protocol Name:
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
20:00
Vectra GENISYS

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.



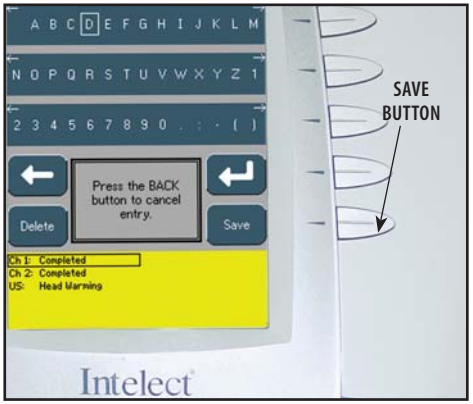
NOTE: To add a space, select the area to the left of the letter A.

To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired User Protocol Name is entered.

After User Protocol Name is entered, press the Save button.



CLINICAL RESOURCES LIBRARY- DELETING USER PROTOCOLS

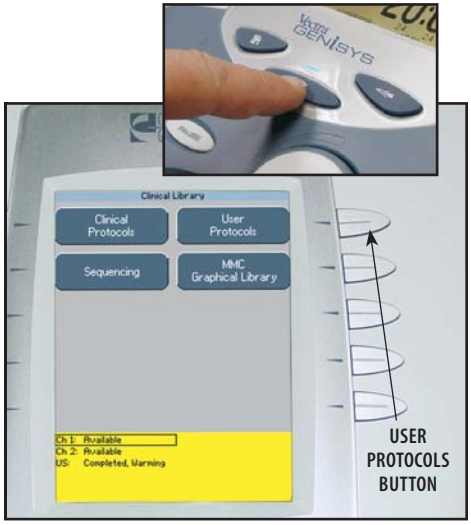
General Information

The following information provides instructions for the deletion of one User Protocol at a time. Once any single User Protocol is deleted, it cannot be recovered. Should the Default Protocols be restored through the User Utilities, all User Protocols will be permanently removed from the system.

There is no method for recovery of the User Protocols nor can they be saved to any other medium.

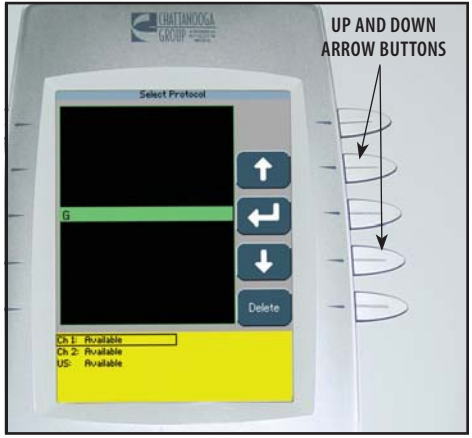
Select Clinical Resources Library

Press the Clinical Resources Library button. Then press the User Protocols button.



Select User Protocol to Delete

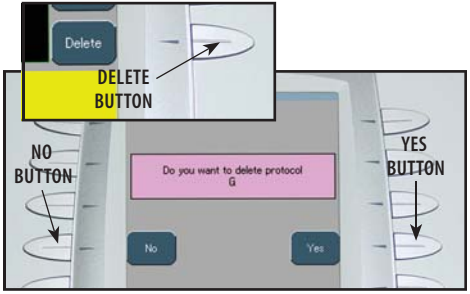
Press the UP and Down Arrow buttons until the desired User Protocol to delete is highlighted.



Delete User Protocol

Press the Delete button to delete highlighted User Protocol.

A verification screen will appear. Press Yes button to delete protocol or No button to keep protocol.



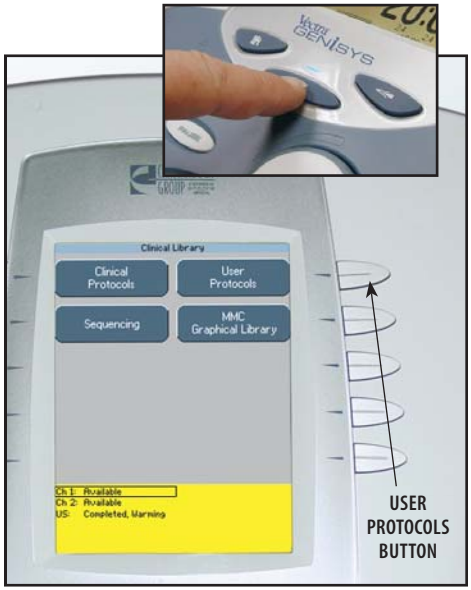
Repeat this process until all desired User Protocols are deleted.

Press the Home button to return to the Home screen.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS

Access User Protocols

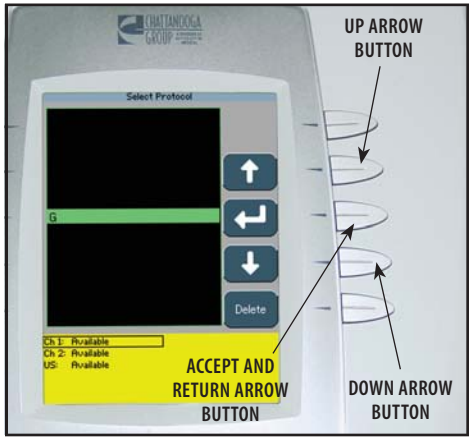
Press the Clinical Resources Library button. Press the User Protocols button.



Select User Protocol

Press the UP and Down Arrow buttons until the prescribed User Protocol is highlighted.

Press the Accept and Return Arrow button.



View Waveform Rationale

Press the Waveform Rationale button (Electrotherapy Modalities) or the Parameter Rationale (Ultrasound Modality) button to view the text explaining the rationale for the modality associated with the User Protocol selected.

Press the Back button to return to the Treatment Review screen.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (CONTINUED)

View Electrode Placement

Press the Electrode Placement button to view the electrode placement for the User Protocol selected.

Press the Next Page button to view text relating to the electrode placement.

Press the Back button to return to the Treatment Review screen

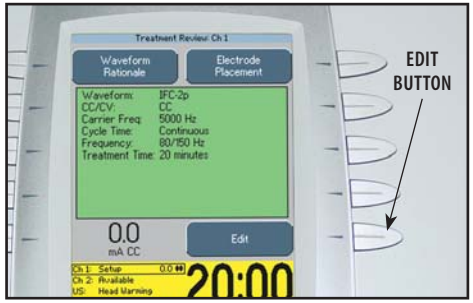
Prepare Patient

Refer to **pages 32 through 35** for Electrotherapy and **page 36** for Ultrasound patient preparation instructions. For sEMG and sEMG+Stim patient preparation, refer to **pages 37 through 40**.

Edit Modality Parameters

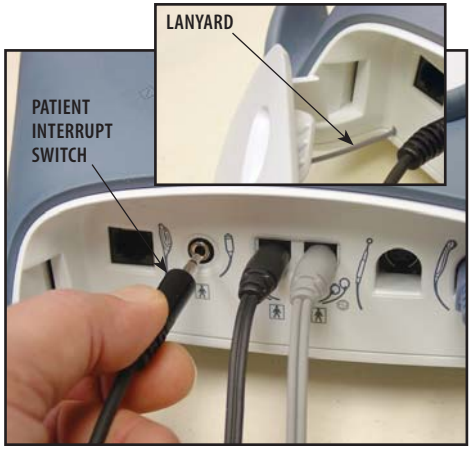
Press the Edit button.

Edit modality parameters as prescribed. Refer to **page 45** for Electrotherapy modalities and **page 50** for Ultrasound. Refer to **pages 53 through 60** for sEMG set up and **pages 72 through 79** for sEMG+Stim modality set up.



Optional Patient Interrupt Switch

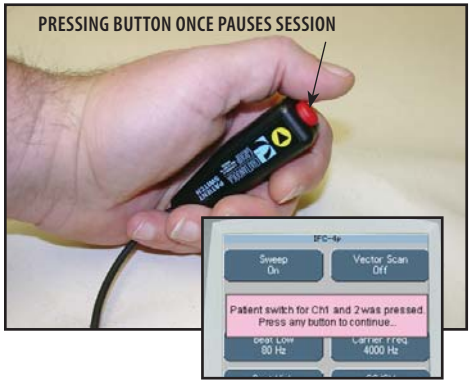
Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to **page 16** for Symbol Definitions.



NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (CONTINUED)

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.


PRESSING BUTTON ONCE PAUSES SESSION
Sweep On
Vector Scan Off
Patient switch for Ch1 and 2 was pressed.
Press any button to continue...
Beat Low 80 Hz
Carrier Freq 4000 Hz

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Modality Intensity

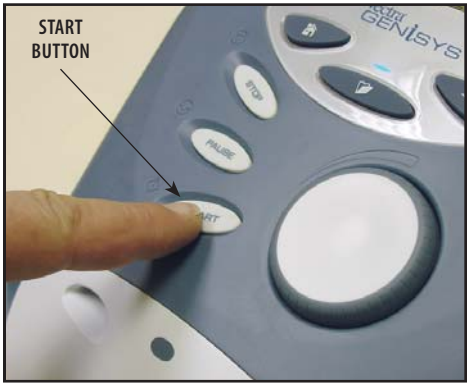
Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

Press the Start button to begin therapy session.

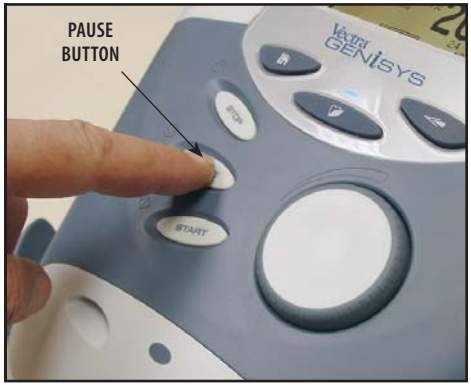


NOTE: Modality parameters may be edited at any time during the therapy session. Refer to page 48 for Electrotherapy and page 52 for Ultrasound.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (CONTINUED)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES

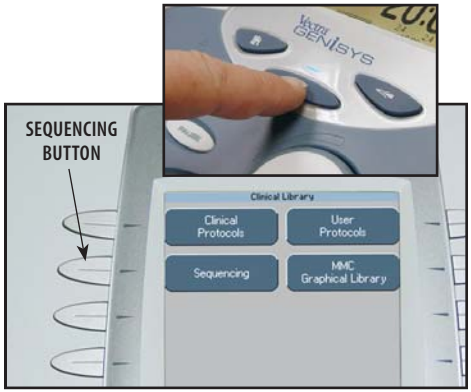
General Information

This Library is a series of Electrotherapy Waveform/Current Sequences created by the user for special electrotherapy treatment purposes and stored in the system memory for recall and use. The following information gives general instructions for setting up, saving and accessing of sequences. Should the Default Protocols be restored through the User Utilities, all user saved Sequences will be permanently removed from the system.

The Therapy System memory will accommodate up to 200 user defined protocols. This is inclusive of all User Protocols, Sequences, and System Default Protocols. It does not include the Clinical Protocols™.

Access Sequencing

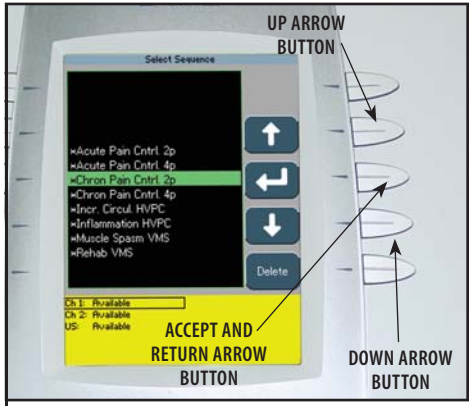
Press the Clinical Resources Library button. Press the Sequencing button.



Select Sequence

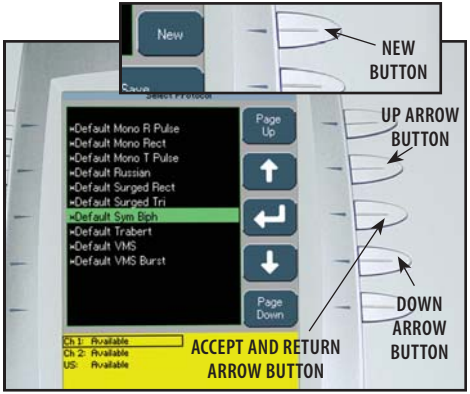
Press the Up and Down Arrow buttons until the desired sequence is highlighted.

Press the Accept and Return Arrow button.



Select First Waveform or Current

Press the New button. Press the Up and Down Arrow buttons to highlight the desired waveform/current.



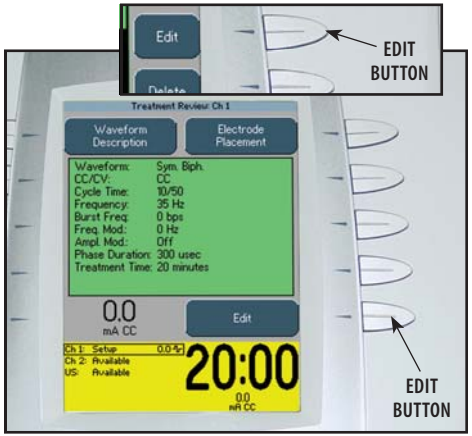
Press the Accept and Return Arrow button.

CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES (CONTINUED)

Edit First Waveform or Current

Press the Edit button on the Sequence screen.

Press the Edit button on the waveform/ current Treatment Review screen.

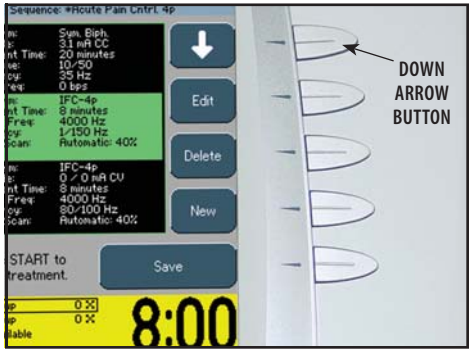


Edit waveform or current as prescribed.

Press the Back button twice to go back to the Sequence screen.

Select Second Waveform or Current

Press the Down Arrow button on the Sequence screen to highlight the next waveform in the Sequence.



Repeat steps used in selecting and editing first waveform/current for second and third waveform/current.

Saving New Sequence

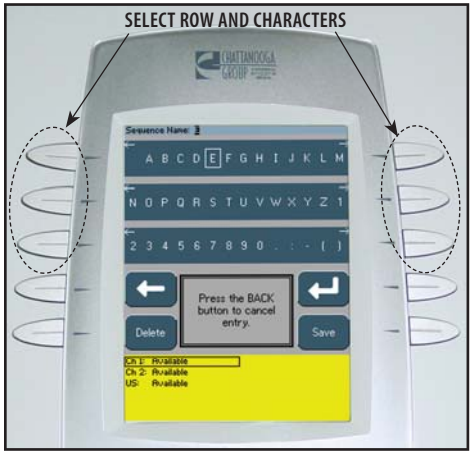
After all waveforms/currents have been selected and edited as prescribed, press the Save button on the Sequence screen.

Save
8:00
SAVE BUTTON
Sequence Name: *Acute Pain Cntrl 4p
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
Ch 1: Available
Ch 2: Available
US: Available

CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES (CONTINUED)

Enter Sequence Name

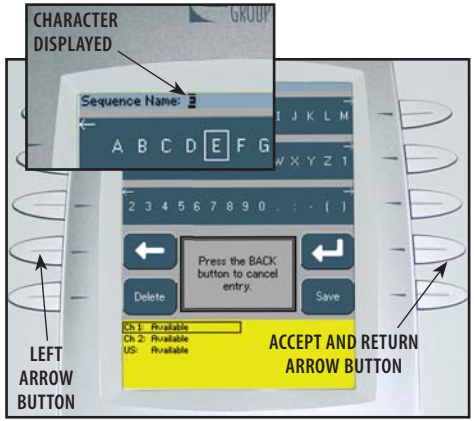
Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.


SELECT ROW AND CHARACTERS
Sequence Name:
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
Ch 1: Available
Ch 2: Available
US: Available

NOTE: To add a space, select the area to the left of the letter A.

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.

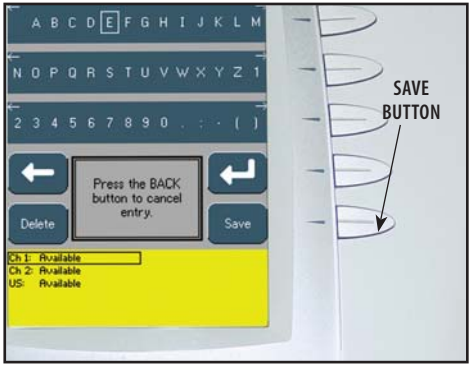


To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired sequence name is entered.

After sequence name is entered, press the Save button.


A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z 1
2 3 4 5 6 7 8 9 0 . : - ( )
Press the BACK button to cancel entry.
Delete
Save
SAVE BUTTON
Ch 1: Available
Ch 2: Available
US: Available

CLINICAL RESOURCES LIBRARY- DELETING SEQUENCES

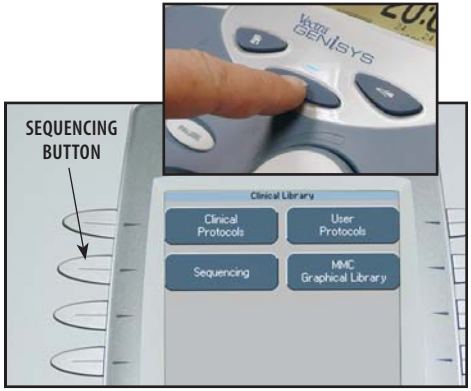
General Information

The following information provides instructions for the deletion of one user defined sequence at a time. Once any single sequence is deleted, it cannot be recovered. Should the Default Protocols be restored through the User Utilities, all user defined sequences will be permanently removed from the system.

There is no method for recovery of the user defined Sequences nor can they be saved to any other medium. There are eight Default Sequences, indicated by an asterisk(*), that cannot be deleted.

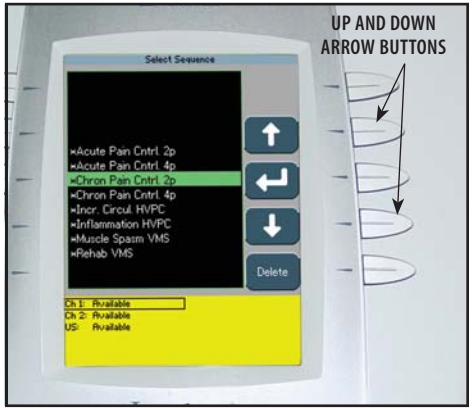
Access Sequencing

Press the Clinical Resources Library button.
Press the Sequencing button.



Select Sequence

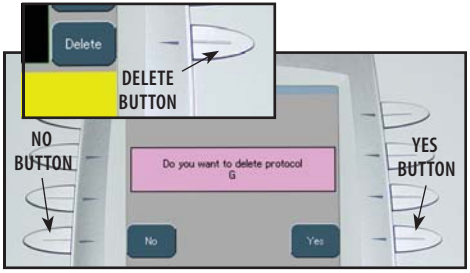
Press the Up and Down Arrow buttons until the desired Sequence is highlighted.



Delete Sequence

Press the Delete button to delete highlighted Sequence.

A verification screen will appear. Press Yes button to delete Sequence or No button to keep Sequence.



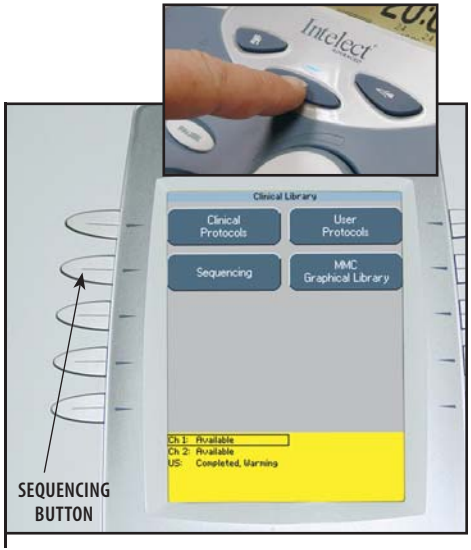
Repeat this process until all desired user defined Sequences are deleted.

Press the Home button to return to the Home screen.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES

Access Sequencing

Press the Clinical Resources Library button.
Press the Sequencing button.



Select Sequence

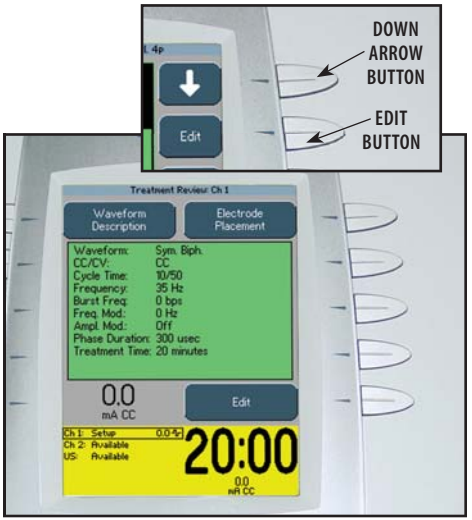
Press the UP and Down Arrow buttons until the prescribed Sequence is highlighted.

Press the Accept and Return Arrow button.

Select Waveform/Current

Press the Down Arrow button on the Sequence screen to highlight the prescribed waveform/current in the Sequence.

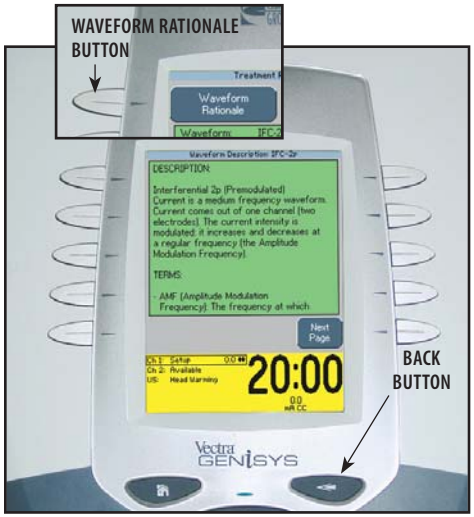
Press the Edit button.



CLINICAL RESOURCES LIBRARY- USING SEQUENCES (CONTINUED)

View Waveform Rationale

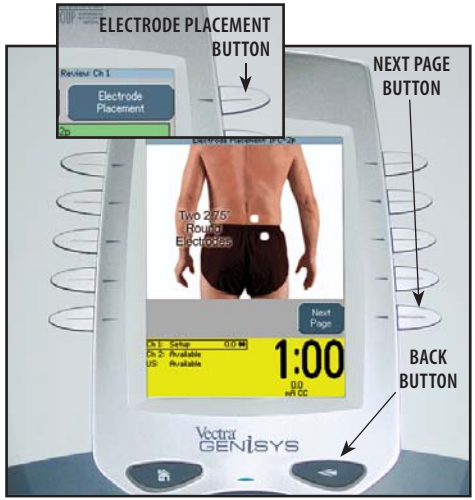
Press the Waveform Description button to view the text explaining the rationale for the modality associated with the Sequence selected.



Press the Back button twice to return to the Sequence screen.

View Electrode Placement

Press the Electrode Placement button to view the electrode placement for the Sequence selected.



Press the Next Page button to view text relating to the electrode placement.

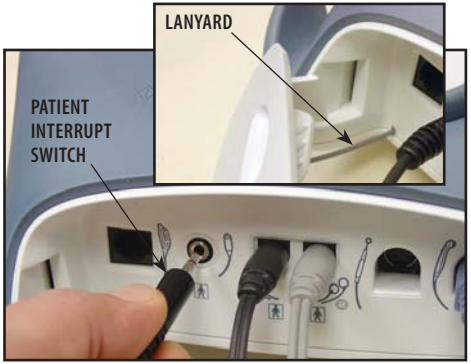
Press the Back button twice to return to the Sequence screen

Prepare Patient

Refer to **pages 32 through 35** for Electrotherapy patient preparation instructions.

Optional Patient Interrupt Switch

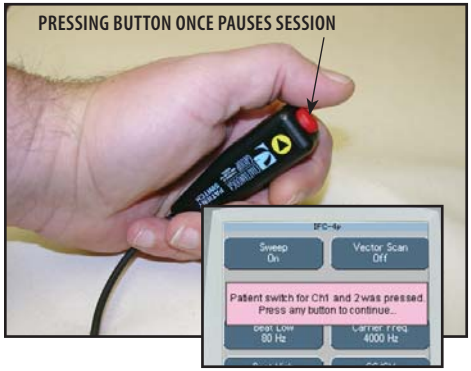
Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to **page 16** for Symbol Definitions.



NOTE: When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES (CONTINUED)

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.


PRESSING BUTTON ONCE PAUSES SESSION
Sweep On
Vector Scan Off
Patient switch for Ch1 and 2 was pressed. Press any button to continue...
Carrier Freq 4000 Hz

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE: If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Sequence Intensity

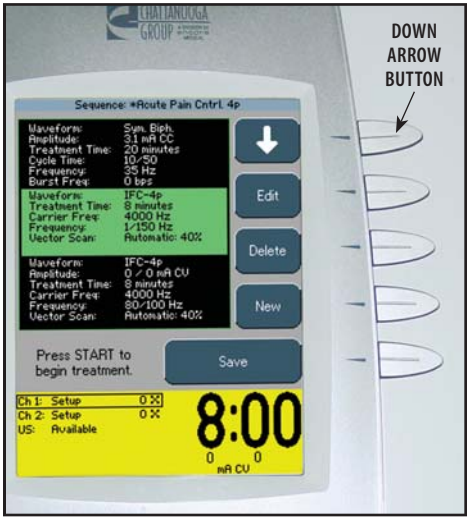
The first waveform/current in the Sequence should be highlighted. Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Press the Down Arrow button until the second waveform/current in the sequence is Highlighted.

Set intensity by rotating the Intensity Control Knob to the prescribed level.

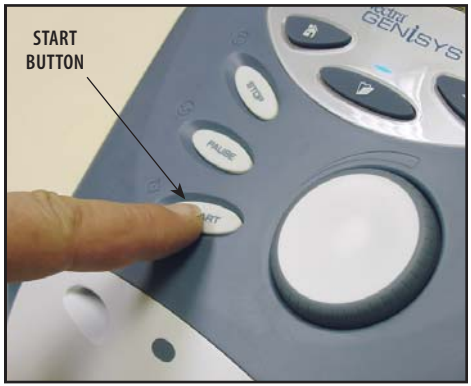


Repeat for the third waveform/current in the Sequence.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES (CONTINUED)

Start Treatment

Press the Start button to begin therapy session.



Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Completed Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to **pages 80 through 89** for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- MMC GRAPHICAL LIBRARY

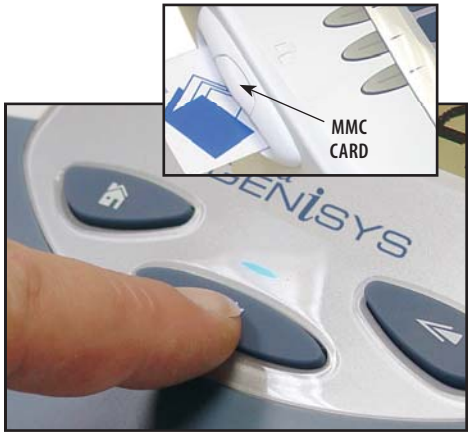
General Information

The Clinical Resources Library contains the unique Anatomical and Pathological Graphic Libraries* from Chattanooga Group. These Graphic Libraries are contained on a single Multimedia Card (MMC) and are designed to aid the operator in visually understanding and locating specific muscle groups and commonly found problems associated with Pathological Conditions as well as providing an educational tool for the clinician to use with the patient.

Select Clinincal Resources Library

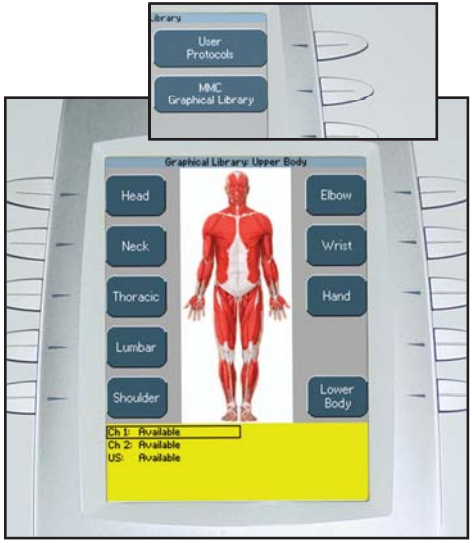
Make certain the Multimedia Card (MMC) is inserted into the system MMC Access Port.

Press the Clinical Resources Library button.



Select MMC Graphical Library

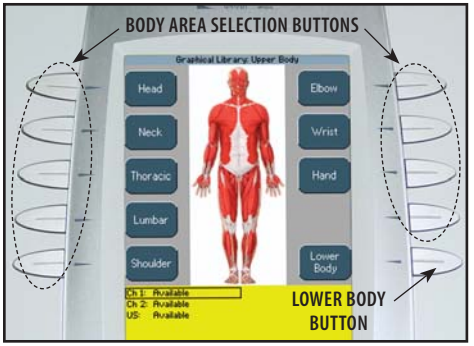
Press the MMC Graphical Library button.



Select Body Area

The default setting displays Upper Body Selections. To view Lower Body Selections, press the Lower Body button.

Press the button beside the desired Body Area.



NOTE: For representation purposes the Shoulder has been selected for this section.

*Copyright ©2003 Nucleus Medical Art.
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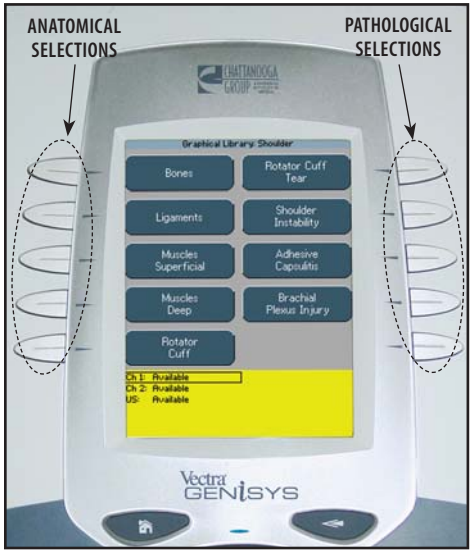
CLINICAL RESOURCES LIBRARY- MMC GRAPHICAL LIBRARY (CONTINUED)

Select Library Type

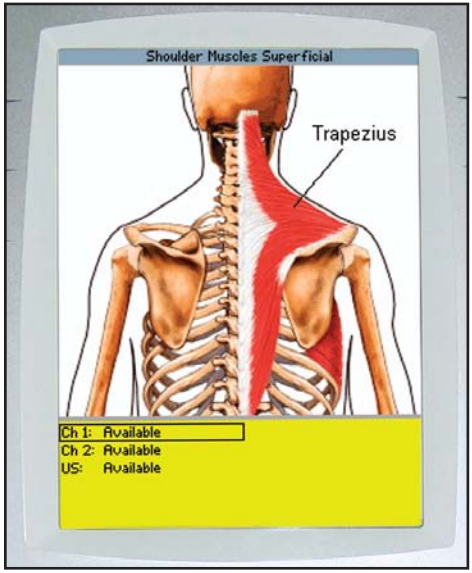
Select the desired graphic by pressing the corresponding button.

Left Side buttons- Anatomical Selections

Right Side buttons- Pathological Selections



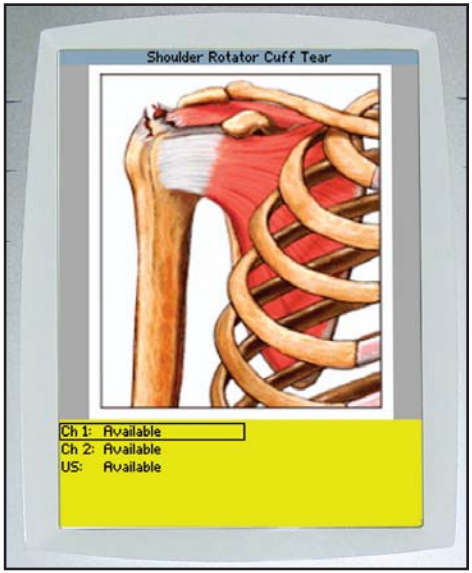
Anatomical Example- Muscles Superficial



Press the Back button to return to the selection screen.

Press the Home button to return to the Home screen.

Pathological Example- Rotator Cuff Tear



Press the Back button to return to the selection screen.

Press the Home button to return to the Home screen.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY, AND LASER MODULE

Possible System Configurations

The Vectra Genisys Electrotherapy and Combination Systems allow installation of optional modality modules, by the user. Specifically designed for use with the Vectra Genisys Therapy Systems, these modules configure the Therapy System to meet virtually every therapeutic need that a clinician may have. The following is a list of possible configurations of the Vectra Genisys Therapy System.

- Four Channel Electrotherapy or Combination System: Install the Channel 3/4 Electrotherapy Module to the Two (2) Channel Electrotherapy or Combination System.
- Two Channel Electrotherapy or Combination System with Laser: Install the Laser Module to the Two (2) Channel Electrotherapy or Combination System. Vectra Genisys Laser Applicators are sold separately.
- Two or Four Channel Electrotherapy or Combination System with sEMG and sEMG + Electrical Stimulation: Install the sEMG Module(s) onto the System or the Channel 3/4 Electrotherapy Module, if equipped. This allows the System to have the potential of sEMG and sEMG + Electrical Stimulation available on two channels (1 and 2 or 3 and 4). The Vectra Genisys Therapy System is equipped with a factory installed sEMG Module.

  NOTE: The sEMG Module cannot be installed onto the Battery or Laser Module. It can only be installed onto the Two Channel System or the Channel 3/4 Electrotherapy Module.

- Battery Powered Two Channel Electrotherapy or Combination System with sEMG and sEMG + Electrical Stimulation: Install the NiMH Battery Module. The sEMG Module is factory installed on Vectra Genisys Therapy Systems.

  NOTE: The Battery Module cannot be installed on a Four Channel System or a system with the Laser Module installed. The Channel 3/4 Electrotherapy or Laser Module must first be removed.

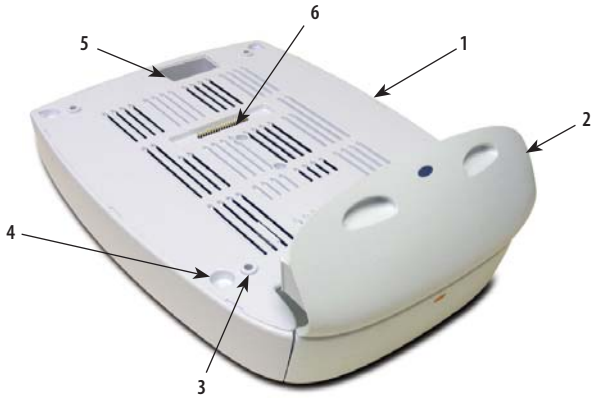
The Channel 3/4 Electrotherapy, NiMH Battery and sEMG Optional Modules are shipped with all necessary lead wires and accessories in order to complete the installation and allow immediate use by a physician or licensed practitioner. The Laser Module requires separate purchase of a Vectra Genisys Laser Applicator before the Laser Module will function.

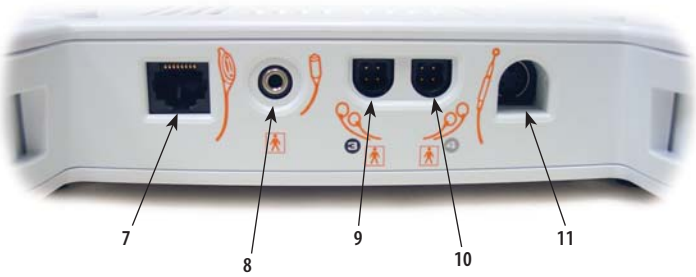
No special tools or equipment are required for optional Module installation. The System is programmed to automatically recognize the new Module(s), therefore, no software installation is required.

This section explains user installation procedures for the following modules: Channel 3/4 Electrotherapy Module, NiMH Battery Module, and sEMG Module.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Nomenclature- Channel 3/4 Electrotherapy Module





1. Channel 3/4 Electrotherapy Module
2. Extended Front Access Panel
3. Module to System Mounting Holes
4. Module to System Feet Alignment Indents
5. Power Cord Routing Port
6. Module to System Connector
7. Operator Remote Control Connector*
8. Patient Interrupt Switch Connector*
9. Channel 3 Lead Wire Connector*
10. Channel 4 Lead Wire Connector*
11. Microcurrent Probe Connector*

Also Included:

- Four 4 mm X 20 mm mounting screws
- Channel 3 and 4 Lead Wires
- Sample of DURA-STICK™ II electrodes

* Refer to **page 16** for Symbol Definitions.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Specifications

Dimensions

Width . . . . . 8.250 in (21 cm)

Depth . . . . . 11.875 in (30 cm)

Height . . . . . 4.500 in (11.5 cm)

Weight

Standard Weight. . . . . 1.0 lbs (.50 kg)

Power

Input . . . . . System Dependent

Output . . . . . System Dependent

Electrical Class . . . . . CLASS I

Electrical Type . . . . . TYPE BF

Regulatory Compliance

UL/IEC/EN 60601-1
IEC 60601-2-10

NOTE: All waveforms except High Voltage Pulsed Current (HVPC) of the Vectra Genisys Therapy System have been designed with a 200 mA current limit.

VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified and listed to peak, not peak to peak.

Waveform & Current Specifications

All waveform/currents available to the Vectra Genisys Therapy System are available to the Channel 3/4 Electrotherapy Module once installation is complete. Refer to **pages 19 through 23** for available waveform specifications.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Disconnect Mains Power

⚠ WARNING

Disconnect the system from the power source (outlet or remove battery module if installed) before attempting any maintenance, installation, removal or replacement procedures to prevent electrical shock and possible damage to system.

Disconnect the Mains Power Cord from the power supply. Remove the Rear Access Panel and disconnect the Mains Power Cord from the Therapy System.

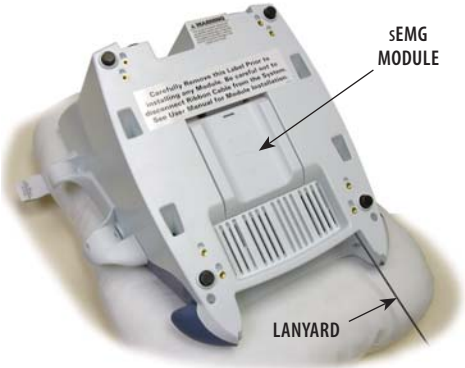
Remove Lead Wires and Accessories

Remove the Front Access Cover and disconnect the Lead Wires and Accessories from the Therapy System.

Remove Therapy System from Cart

Remove the Therapy System from the Therapy System Cart, if equipped. Refer to **pages 131 through 133** for proper instructions.

Place Therapy System face down on a clean working surface protected with a soft, clean fabric to prevent damage to the lens.



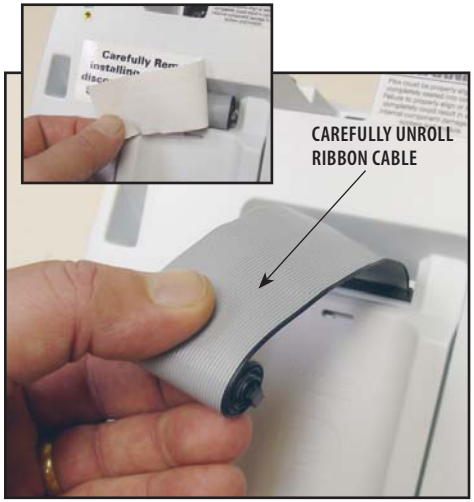
NOTE: Do not remove the sEMG Module, if installed. The sEMG Module will not interfere with installation of the Channel 3/4 Electrotherapy Module.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Release Ribbon Cable

Remove and discard the vinyl label holding the Ribbon Cable in the cavity on the Therapy System.

Carefully unroll the Ribbon Cable, making certain not to disconnect it from the Therapy System.

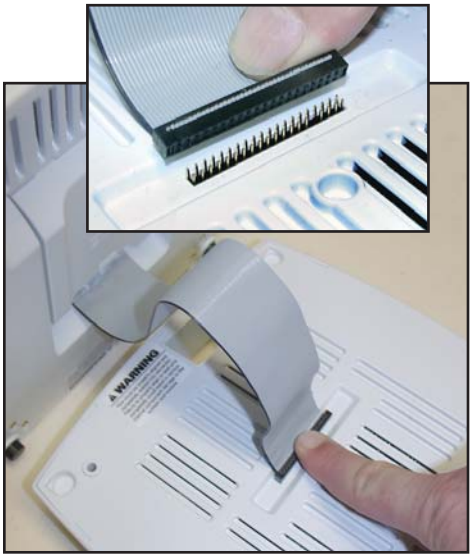


Position Therapy System and Module

Position Therapy System and the Channel 3/4 Electrotherapy Module as shown.

Connect Ribbon Cable

Carefully align the Ribbon Cable Connector to the Module Connector Pins and press down to connect.



NOTE: Ribbon cable must be as shown!

Make certain Ribbon Cable is completely seated to Module Connector Pins.

INSTALLATION/REMOVAL

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Set Therapy System onto Module

⚠CAUTION

Do not twist Ribbon Cable. If power is applied to the system with misalignment of pins or a twisted ribbon cable, the controlling electronics in the Module will be destroyed and possible damage to the System's internal components could occur.

Set the Therapy System on the Module. Make certain the Feet of the Therapy System are resting in the Module Indents.

Secure Therapy System to Module

Carefully place the Therapy System and Module on one side. With a #1 Phillips Screwdriver, install the four 4 mm x 20 mm screws.

Tighten screws until the Module does not move on the Therapy System.

Front Access Panel

With a #1 Phillips Screwdriver, remove the screw retaining the existing Front Access Panel.

Install Lanyard to the new Extended Front Access Panel using the same screw.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

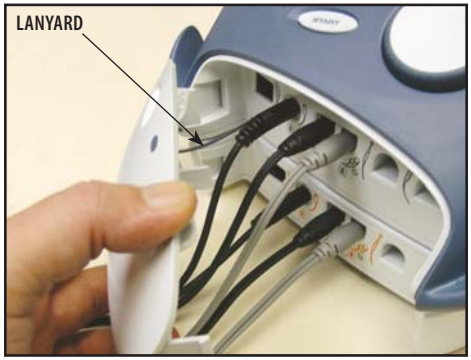
Install Lead Wires and Accessories

Install Lead Wires and additional accessories to Front Panel. Refer to **page 16** for Symbol Definitions.

Install Front Access Panel

Install the new Extended Front Access Panel onto Therapy System.

Make certain Lanyard does not become kinked.



Mount to Therapy System Cart

If mounting Therapy System to a Therapy System Cart, refer to **pages 131 through 133** for instructions.

Connect Mains Power

Connect the Mains Power Cord to the Therapy System.

Install Rear Access Panel.

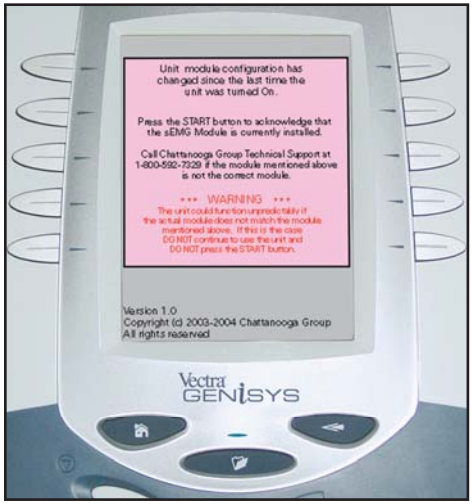
Connect the Mains Power Cord to an approved power source.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Turn Therapy System On

Turn the System On using the On/Off Switch. The System will automatically recognize the added Module and display a configuration change message.

Read and carefully follow the instructions on the screen.


Unit module configuration has changed since the last time the unit was turned On.
Press the START button to acknowledge that the sEMG Module is currently installed.
Call Chattanooga Group Technical Support at 1-800-592-7329 if the module mentioned above is not the correct module.
*** WARNING ***
The unit could function unpredictably if the actual module does not match the module mentioned above. If this is the case DO NOT continue to use the unit and DO NOT press the START button.
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⚠ WARNING

Verify that the Module installed is the Module displayed in the message BEFORE pressing the START button. If it is not, DO NOT press the START button. Turn the System OFF and back ON. If the problem continues, call the selling dealer or Chattanooga Group Technical Support immediately.

DO NOT USE THE SYSTEM until all necessary repairs are made by a Technician certified by Chattanooga Group. If use is attempted before repairs are made, the System may operate unpredictably and has the potential of causing injury to the patient or damage to the System's internal components.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY, AND LASER MODULE

Disconnect Mains Power

⚠ WARNING

Disconnect the system from the power source (outlet or remove battery module if installed) before attempting any maintenance, installation, removal, or replacement procedures to prevent electrical shock and possible damage to system.

Disconnect the Mains Power Cord from the power supply. Remove the Rear Access Panel and disconnect the Mains Power Cord from the Therapy System.

Remove Lead Wires and Accessories

Remove the Front Access Cover and disconnect the Lead Wires and Accessories from the Therapy System and Channel 3/4 Electrotherapy Module.

NOTE: Keep Lead Wires and accessories for later re-installation to the Therapy System.

Remove Therapy System from Cart

Remove the Therapy System from the Therapy System Cart, if equipped. Refer to **pages 131 through 133** for proper instructions.

Place Therapy System face down on a clean working surface protected with a soft, clean fabric to prevent damage to the lens.

NOTE: It is not necessary to remove the sEMG Module from the Channel 3/4 Electrotherapy Module, if installed.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Remove Screws Securing Module

With a #1 Phillips Screwdriver, remove the four 4 mm x 20 mm screws securing the Module to the Therapy System.

Disconnect Ribbon Cable at Module

Separate the Module from the Therapy System and disconnect the Ribbon Cable from the Module Connector Pins.

⚠CAUTION

Do not disconnect Ribbon Cable from the Therapy System.

Store and Secure Ribbon Cable

Roll the Ribbon Cable up and store in the cavity of the Therapy System. Secure Ribbon Cable with a nonpermanent adhesive tape.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Front Access Panel

With a #1 Phillips Screwdriver, remove the screw retaining the existing Front Access Panel.

Install Lanyard to the original Front Access Panel using the same screw.

Install Lead Wires and Accessories

Re-install Lead Wires and Accessories to the Therapy System Front Panel.

NOTE: When re-installing the Front Access Panel to the Therapy System, make certain the Lanyard does not become kinked.

Connect Mains Power

Connect the Mains Power Cord to the Therapy System.

Install Rear Access Panel.

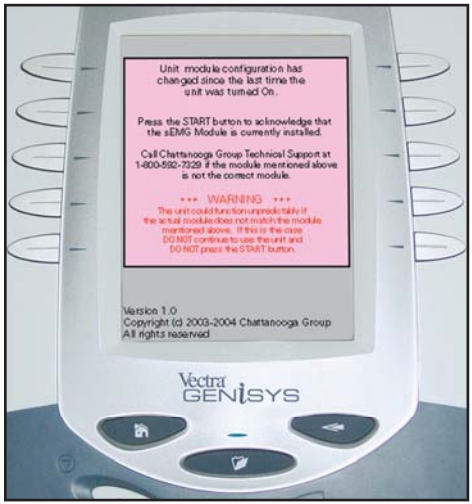
Connect the Mains Power Cord to an approved power source.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY, NiMH BATTERY AND LASER MODULE (CONTINUED)

Turn Therapy System On

Turn the System On using the On/Off Switch. The System will automatically recognize the Module has been removed and will display a configuration change message.

Read and carefully follow the instructions on the screen.


Unit module configuration has changed since the last time the unit was turned On.
Press the START button to acknowledge that the sEMG Module is currently installed.
Call Chattanooga Group Technical Support at 1-800-592-7329 if the module mentioned above is not the correct module.
*** WARNING ***
The unit could function unpredictably if the actual module does not match the module mentioned above. If this is the case DO NOT continue to use the unit and DO NOT press the START button.
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⚠ WARNING

Verify that the Module installed is the Module displayed in the message BEFORE pressing the START button. If it is not, DO NOT press the START button. Turn the System OFF and back ON. If the problem continues, call the selling dealer or Chattanooga Group Technical Support immediately.

DO NOT USE THE SYSTEM until all necessary repairs are made by a Technician certified by Chattanooga Group. If use is attempted before repairs are made, the System may operate unpredictably and has the potential of causing injury to the patient or damage to the System's internal components.

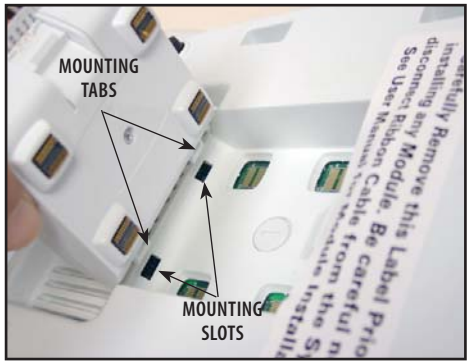
INSTALLATION/REMOVAL

INSTALLING sEMG MODULE

This section applies only to models capable of supporting the functions of the sEMG module.

Position sEMG Module

Position the sEMG Module so that the two mounting tabs are inserted into the System or Channel 3/4 Electrotherapy Module mounting slots.



Secure sEMG Module

Push the upper portion of the sEMG Module until it snaps and is locked into position.

Install and Reinstall Additional Module

If desired, install a Channel 3/4, Battery or Laser Module to the System. Refer to **pages 118 through 122** for installation instructions prior to the following procedures.

Install Rear Access Panel

Insert the Power Cord into the System Mains connector. Install the Rear Access Panel.

NOTE: If installing the System to a Therapy System Cart, refer to **pages 131 through 133** for proper instructions.

INSTALLING sEMG MODULE (CONTINUED)

Install Cables and Accessories

Install all cables and accessories to the Front Access Panel. Refer to **page 16** for Symbol Definitions.

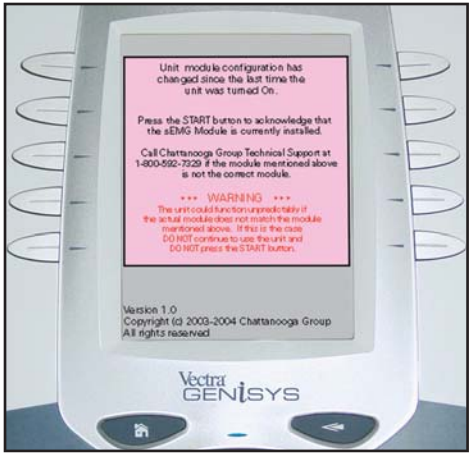
CONNECT ALL CABLES AND ACCESSORIES

Apply Mains Power

Plug Power Cord into an approved outlet.

Turn the System On using the On/Off Switch. The System will automatically recognize the added Module and display a configuration change message.

Read and carefully follow the instructions on the Screen.


Unit module configuration has changed since the last time the unit was turned On.
Press the START button to acknowledge that the sEMG Module is currently installed.
Call Chattanooga Group Technical Support at 1-800-592-7329 if the module mentioned above is not the correct module.
*** WARNING ***
The unit could function unpredictably if the actual module does not match the module mentioned above. If this is the case DO NOT continue to use the unit and DO NOT press the START button.
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⚠ WARNING

Verify that the Module installed is the Module displayed in the message BEFORE pressing the START Button. If it is not, DO NOT press the START Button. Turn the System OFF and back ON. If the problem continues, call the selling dealer or Chattanooga Group Technical Support immediately.

DO NOT USE THE SYSTEM until all necessary repairs are made by a Technician certified by Chattanooga Group. If use is attempted before repairs are made, the System may operate unpredictably and has the potential of causing injury to the patient or damage to the System's internal components.

INSTALLATION/REMOVAL

REMOVING sEMG MODULE

The sEMG Module should only be removed for service related problems.

Prepare System

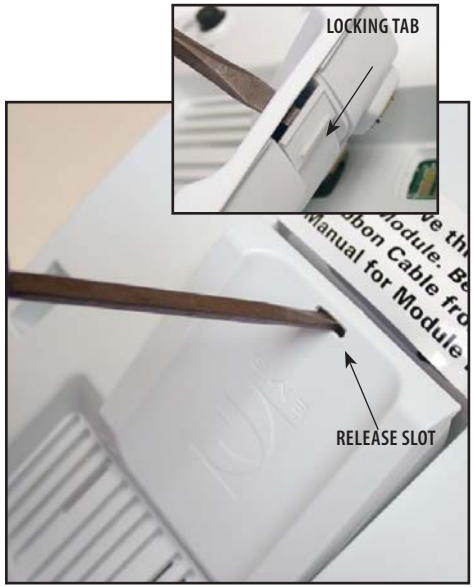
Prepare the Therapy System for removal of the sEMG Module. Refer to **Page 118**.

⚠ WARNING

Disconnect the system from the power source (outlet or remove battery module if installed) before attempting any maintenance, installation, removal, or replacement procedures to prevent electrical shock and possible damage to system.

Remove sEMG Module

Insert a Flat Blade Screwdriver into the Release Slot and pry against the Locking Tab of the sEMG Module until the sEMG Module is free from the Therapy System.



sEMG Plug Kit

The sEMG Plug Kit, part number 28027, is designed to protect the exposed PC Board contacts on the bottom of the Therapy System and the Channel 3/4 Electrotherapy Module when the sEMG Module has been removed.

The sEMG Plug Kit must be installed when a sEMG Module has been removed for service related problems and the Therapy System will be put back into service without the sEMG module.

The sEMG Plug Kit is installed and removed in the same fashion as a sEMG Module. Refer to **page 127** for installation instructions.

GENERAL INFORMATION- OPERATOR REMOTE

The Optional Operator Remote is designed for use with the Vectra Genisys Electrotherapy and Combination Systems only and allows the operator to control the application of manual muscle stimulation therapy as well as increase and decrease the waveform intensity.

There are two different Operator Remotes. One is designed for use with Channels 1 and 2. It is designated by a blue Pause button on the control. The other is designed for use on channels 3 and 4 (Systems with the optional Channel 3/4 Electrotherapy Module installed) and is designated with an orange color Pause button. Make certain the remote for the channels being used is connected to the respective System or Module before administering any therapy with the Operator Remote.

Operator Remote Installation

1. Remove the Front Access Panel.

2. Connect the Operator Remote into its respective jack.

3. Reinstall the System Front Access Panel.

NOTE: If the System is equipped with the Channel 3/4 Electrotherapy Module, the Channel 3/4 User remote will be installed into the respective jack on the Module.

⚠CAUTION

Operator Remote is to be used under supervision of a physician or licensed practitioner only. The Operator Remote is not intended for patient use.

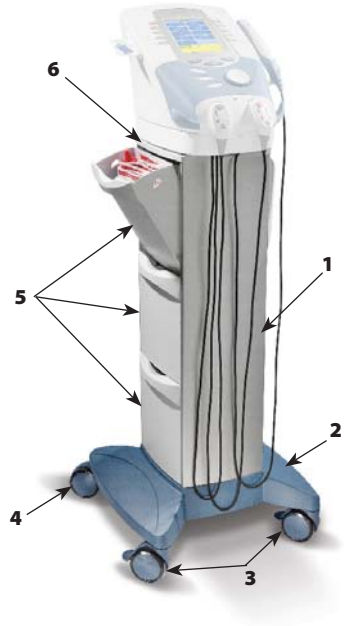
INSTALLATION/REMOVAL

GENERAL INFORMATION- THERAPY SYSTEM CART

The optional Therapy System Cart is designed for use with the Vectra Genisys Electrotherapy and Combination Systems only and allows the user to easily transport the System from patient to patient within the clinic as well as store all necessary accessories, supplies, and applicators used for the various modalities of the System.

The following instructions will explain the proper installation of the Vectra Genisys Therapy System, with and without optional modules, to a Therapy System Cart.

Nomenclature



1. Front and Rear Extrusion
2. Cart Base
3. Front Locking Swivel Casters (2)
4. Rear Swivel Casters (2)
5. Removable Storage Bins (6)
6. Cart Top

Specifications

Dimensions

Height

Cart Only ..... 33.75 in (85.7 cm)

With System .....42.50 in (108 cm)

With System and Module.....44.25 in (112.4 cm)

Width ..... 17 in (43.2 cm)

Depth..... 16.25 in (41.3 cm)

Standard Weight ..... 24 lbs (10.9 kg)

Shipping Weight..... 33 lbs (15.0 kg)

Power Required.... 100 - 240 V, 50/60 Hz

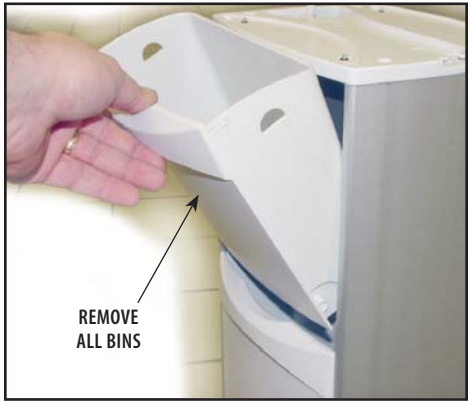
MOUNTING THERAPY SYSTEM TO THERAPY SYSTEM CART

Therapy System Cart Assembly

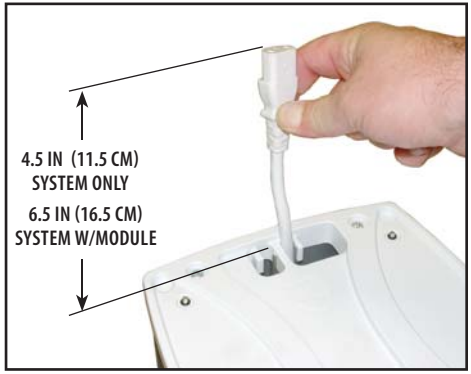
Follow the "Assembling Therapy System Cart" instructions shipped with the Cart for proper assembly. If the instruction sheet is not available visit the Chattanooga Group website, www.chattgroup.com, to obtain a copy of the instruction sheet.

Prepare Therapy System Cart

Remove all the Storage Bins from both sides of the Therapy System Cart by pulling each bin out and up.



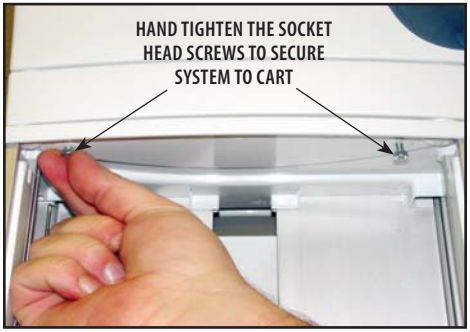
Allow approximately 4.5 in (11.5 cm) of the power cord extending through the top of the cart for connecting to system. If the system is equipped with an optional NiMH Battery, Laser or Channel 3/4 Electrotherapy Module, it will be necessary to allow 6.5 in (16.5 cm) of the Power Cord extending through the top of the Therapy System Cart.



Mount Therapy System to Cart

Position the Therapy System onto the Therapy System Cart with the rear of the System over the Mains Power Cord.

Secure the System to the cart with the four socket head screws in the Therapy System Cart Top.



NOTE: Secure the System to the cart by tightening the screws by hand only. Do not use a wrench to tighten the screws. Overtightening may cause damage to the System or Module housing.

MOUNTING THERAPY SYSTEM TO THERAPY SYSTEM CART (CONTINUED)

Connect Mains Power

Plug Power Cord into the System Mains Disconnect and reinstall the Rear Access Panel. Install all lead wires and cables to the System.

Install Storage Bins

Install Storage Bins into Therapy System Cart. Start with bottom Storage Bin first.

Removing System from Therapy System Cart

To remove the Therapy System from the Therapy System Cart, repeat the Mounting instructions.

OPERATOR REMOTE OPERATION

Nomenclature

* BLUE FOR CHANNELS 1/2 OPERATOR REMOTE
ORANGE FOR CHANNELS 3/4 OPERATOR REMOTE

1. Remote Storage Hook
2. Treatment Pause button
3. Channel 2 Increase Intensity button
4. Channel 2 Decrease Intensity button
5. Manual Stimulation button
6. Channel 1 Decrease Intensity button
7. Channel 1 Increase Intensity button

NOTE: Refer to **page 16** for Symbol definitions.

Operation

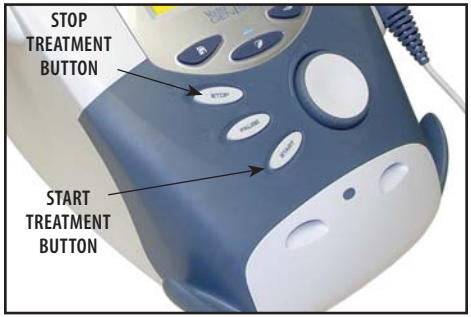
⚠ CAUTION

Operator Remote is to be used under supervision of a physician or licensed practitioner only.

The Operator Remote is not intended for patient use.

Install the Operator Remote as described on **page 130**. Set up electrotherapy session as described on **pages 44-46**.

Start electrotherapy session by pressing the Start Treatment Button.



Pause session by pressing the Pause Button on the Remote being used.

Press the M Button on the remote to apply Manual Stimulation. Release the M Button to stop Manual Stimulation application.

Increase or decrease the intensity by pressing the Up or Down Button on the Operator Remote for the respective channel being used. This can be done while Manual Stimulation is being applied.

To Stop session, press the Stop Treatment Button.

⚠ WARNING

Verify each Operator Remote is connected to the applicable jack for the channels being used.

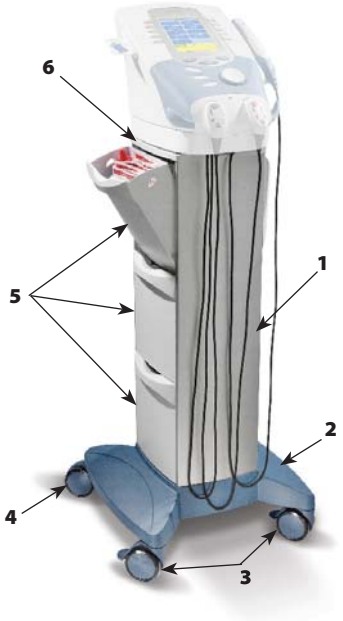
OPERATOR REMOTE OPERATION (CONTINUED)

Operator Remote Storage

Normal storage of the Operator Remote is on the Front Access Panel of the System. Place the storage hook into one of the Remote Storage Indents as shown.

THERAPY SYSTEM CART OPERATION

Nomenclature



1. Front and Rear Extrusion
2. Cart Base
3. Front Locking Swivel Casters (2)
4. Rear Swivel Casters (2)
5. Removable Storage Bins (6)
6. Cart Top

⚠ WARNING

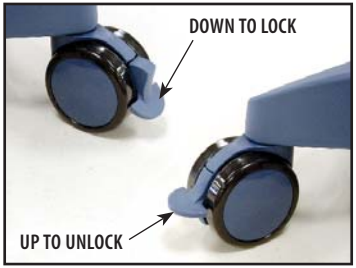
Make certain the unit is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes.

Operation

1. Install the Therapy System Cart as described on **pages 131 through 133**.
2. Open Storage Bins and place items for storage. Close Bins until they snap into position.

3. Lock the Front Locking Swivel Casters by pushing Lock down with toe of shoe.

   Unlock by pulling Lock up with toe of shoe.



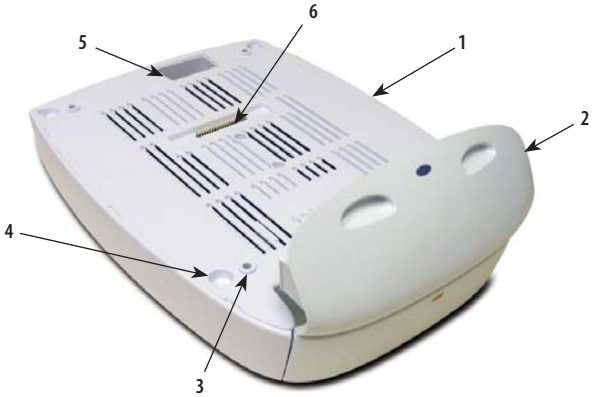
OPTION OPERATION

NiMH BATTERY MODULE OPERATION

The Vectra Genisys Battery Module allows easy upgrade of the Genisys Electrotherapy and Combination Systems to create a battery powered Therapy System. The information in this section instructs the owner, operator, or user as to the initial set up and operation of the optional NiMH Battery Module. No additional software is required for the Module as the System automatically recognizes its presence and activates all necessary software inherent in the System.

Read, understand, and follow all Safety Precautions on **pages 3 through 9** and throughout this manual before operating this Therapy System, Modules or Accessories.

Nomenclature



1. Battery module
2. Extended front access panel
3. Module to system mounting holes
4. Module to system feet alignment indents
5. Power cord routing area
6. Ribbon cable connector

CHARGING BATTERY MODULE

Use the following instructions to properly charge the Genisys Battery Module for use.

When to Recharge

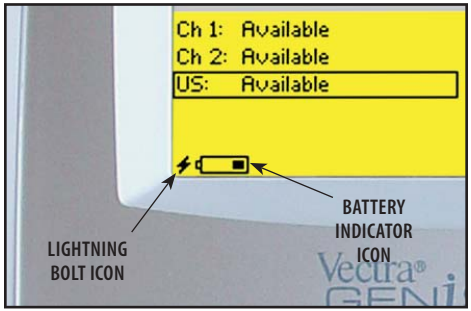
Charging of the Battery Module is required when the Battery Indicator begins flashing.

⚠ WARNING

When charging Battery Module, make certain the System is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes. Using any other power source will cause extensive damage to internal components and render the System unsafe for patient therapy.

With Battery Module installed on the Vectra Genisys Therapy System, plug the System into an approved, grounded power outlet.

Turn the System on. The Lightning Bolt icon will display indicating the battery is charging. As the battery charges, the Battery indicator icon will progressively fill until it is solid black indicating full charge.



NOTE: The Lightening Bolt icon will continue to display as long as the System is connected to a power source.

⚠ DANGER

- Charge the battery according to the instructions found in this manual. Never attempt to charge the battery on any other charging mechanism.
- Use the Battery Module only with the Vectra Genisys Therapy System.
- Do not reverse the polarity of the Battery Module. Doing so can increase the individual cell temperature and cause cell rupture or leakage.

Charging Temperature

- Charging efficiency is optimum within a temperature range of 50 °F to 86 °F (10 °C to 30 °C). Charge the Battery Module within this temperature range.
- At temperatures below 32 °F (0 °C) the gas absorption reaction is not sufficient and causes an increase of the gas pressure inside the battery. This condition can activate the safety vent and lead to alkaline gas leaking and battery performance deterioration.
- Charging efficiency of the Battery Module drops at temperatures above 104 °F (40 °C) and can disrupt full charging, lead to deterioration in performance and battery cell leakage.

BATTERY MODULE SERVICE LIFE

Since NiMH Batteries are designed for multiple cycles of charging and discharging, the expected cycle life of the Battery Module is at minimum 500 cycles utilizing proper discharging and charging procedures.

When the service time (use time between charges) of the Battery Module is significantly reduced, the service life of the Battery Module is exceeded and should be replaced with a new Chattanooga Group Battery Module.

Never attempt to rebuild the Battery Module.

Properly dispose of old Battery Module.

⚠ DANGER

- NiMH Batteries contain Class E Corrosive materials. In the event of battery cell rupture or leakage, handle Battery Module wearing neoprene or natural rubber gloves. Contents of a ruptured or leaking battery can cause respiratory irritation. Hypersensitivity to nickel can cause allergic pulmonary asthma. Contents of cell coming in contact with skin can cause skin irritation and/or chemical burns.

- Never, under any circumstances, open the Battery Module housing or cells. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. There can be a delay between exposure to air and spontaneous combustion.
- Dispose of NiMH batteries according to national, state and local codes and regulations.

STORAGE OF BATTERY MODULE

Short Term Storage

The Battery Module should be operated, transported and stored in temperatures between 59° F and 104° F (15° C and 40° C), with Relative Humidity ranging from 30%-60%.

Long Term Storage

For long term storage of the Battery Module, remove the Battery Module from the System and store in temperatures between 59° F and 104° F (15° C and 40° C), with Relative Humidity ranging from 30%-60%.

When charging the Battery Module for the first time after long term storage, restore the battery service life by charging and discharging the Battery Module several times.

If storing the Battery Module for periods longer than one year, charge the Battery Module at least once per year to prevent performance deterioration and battery leakage due to self-discharge from storage.

ERROR CODES

General Information

The Vectra Genisys Therapy Systems incorporate error messages and warnings to inform the user of problems or potential problems with the system, modality, or accessories. These are numbered so the user can possibly correct the problem without the aid of service personnel. Use the following Troubleshooting Charts to define the error codes and locate the probable cause and possible remedies before contacting the dealer or factory for technical service.

Code Number	Type Message	Probable Cause	Possible Remedies
100	Warning	Overcurrent	**A.** Check Electrodes and Lead Wires. Make certain Lead Wires are not damaged and are properly connected to the system. Make certain Lead Wires are properly connected to the Electrodes and that electrodes are not damaged and are making proper contact with treatment area. **B.** Replace Lead Wires and Electrodes.
101	Warning	Shorted Lead Wires	**A.** Check Electrodes and Lead Wires. Make certain Lead Wires are not damaged and are properly connected to the system. Make certain Lead Wires are properly connected to the Electrodes and that Electrodes are not damaged and are making proper contact with treatment area. **B.** Replace Lead Wires and Electrodes.
102	Warning	Bad Contact Quality	**A.** Make certain Electrodes are making proper contact with the treatment area. **B.** Make certain Lead Wires are properly connected to Electrodes. **C.** Replace Electrodes and Lead Wires.
103	Warning	Blank Patient ID	Properly enter Patient ID. Refer to Therapy System User Manual for Patient Data Card instructions.
104	Warning	**1.** Blank Protocol Name **2.** Blank Sequence Name	Properly enter Protocol or Sequence Name. Refer to the appropriate section of the Therapy System User Manual.
106 107	Warning Warning	**1.** Attempting to delete factory set Sequence. **2.** Attempting to delete Clinical Protocols™.	Cannot delete factory set Clinical Protocols™ or factory set Sequences.

ERROR CODES (CONTINUED)

Code Number	Type Message	Probable Cause	Possible Remedies
108	Warning	Attempting to save additional User Protocols or Sequences after system memory has reached the maximum allowed (200).	Delete some User Protocols or Sequences. Refer to appropriate section of the Therapy System User Manual for instructions.
109 110 111	Warning Warning Warning	Attempting to access protocols or sequences and none are found in the system.	**A.** User Protocols- No protocols have been saved in the system. Refer to Therapy System User Manual to save User Protocols. **B.** Sequences- No User Sequences have been saved in the system. Refer to Therapy System User Manual to save Sequences.
112	Warning	Ultrasound Applicator disconnected from system during treatment session.	**A.** Connect Ultrasound Applicator to system. **B.** If Ultrasound Applicator is connected, reset system by turning power switch Off and On. **C.** If problem persists, connect a known good Ultrasound Applicator. If problem continues, contact dealer or Chattanooga Group for service.
113	Warning	Attempting to perform Ultrasound treatment with no Applicator connected to the system.	**A.** Connect the desired Ultrasound Applicator to the system. **B.** If Ultrasound Applicator is connected, reset system by turning power switch Off and On. **C.** If problem persists, connect a known good Ultrasound Applicator. If problem continues, contact dealer or Chattanooga Group for service.
114	Warning	Ultrasound Applicator is not calibrated.	Attempt to use a known good Applicator. If problem continues, contact dealer or Chattanooga Group for service.
115	Warning	Ultrasound Applicator is too hot.	Allow Ultrasound Applicator Sound Head to cool to ambient temperature.
116 117	Warning Warning	**1.** No Patient Data Card is inserted into the system. **2.** Attempted to use an Invalid Patient Data Card.	**A.** Properly insert the Patient Data Card into the system port. Refer to Therapy System User Manual for new and existing Patient Data Card instructions. **B.** Attempt to use a known good Patient Data Card. **C.** Make certain a Patient Data Card and not an sEMG Data Card is being used. **D.** If problem continues, contact dealer or Chattanooga Group for service.

ERROR CODES (CONTINUED)

Code Number	Type Message	Probable Cause	Possible Remedies
118	Warning	Attempting to save additional User Protocols or Sequences after system memory has reached the maximum allowed (200).	Delete some User Protocols or Sequences. Refer to appropriate section of the Therapy System User Manual for instructions.
119 120 121 122	Warning Warning Warning Warning	**1.** Attempted to read a treatment from Patient Data Card that is not a valid treatment for the system **2.** Attempted to use a Non-Patient Data Card. **3.** No Patient Data Card inserted into system port. **4.** Unknown type of smart card inserted into system.	**A.** Use a Patient Data Card with proper treatment data for the system. **B.** Properly insert a Patient Data Card. **C.** Insert a known good Patient Data Card. **D.** If problem continues, contact dealer or Chattanooga Group for service.
123	Warning	Patient Data Card is full.	Erase Patient Data Card. Refer to Therapy System User Manual for instructions.
124	Warning	Patient Treatment Data already saved.	**A.** Cannot save same data again on Patient Data Card. **B.** Use a new Patient Data Card to resave data. **C.** Erase Patient Data Card and resave treatment data.
125	Warning	Multimedia Card (MMC) not in system port.	**A.** Properly insert the MMC card into the system port. **B.** Insert a known good MMC Card. If problem continues, contact dealer or Chattanooga Group for service.
126	Warning	No valid channels are available for attempted treatment.	**A.** Complete existing treatment before attempting to start another. **B.** Reset Therapy System by turning main power switch Off and On.
127 128	Warning Warning	**1.** No sEMG Channels are available for treatment. **2.** No sEMG Module installed or detected by system.	**A.** Wait until current treatment is complete. **B.** Reset Therapy System by turning main power switch Off and On. **C.** Make certain sEMG Module is properly installed. Refer to sEMG Module User Manual for installation instructions. **D.** Replace sEMG Module with known good sEMG Module. **E.** If problem continues, contact dealer or Chattanooga Group for service.

ERROR CODES (CONTINUED)

Code Number	Type Message	Probable Cause	Possible Remedies
129	Warning	sEMG Data Card full.	sEMG Data Card faulty. Insert a known good sEMG Data Card. If problem continues, contact dealer or Chattanooga Group for service.
130	Warning	Another treatment is running while attempting to set up and perform a Laser Therapy treatment.	**A.** Allow existing treatment to complete before starting Laser Therapy. **B.** If no other treatment is running, reset Therapy System by turning main power switch Off and On.
131	Warning	Treatment Room Laser Interlock is breached.	**A.** Make certain Treatment Room Door is completely closed. **B.** Make certain the Laser Interlock cable is connected to the system. **C.** Replace Laser Interlock to System cable with a known good cable. **D.** Contact department responsible for installation of the Treatment Room Laser Interlock mechanism for maintenance or repair. **E.** If problem continues, send Laser Module to Factory for service.
132	Warning	Attempted to start a laser treatment but no Laser Applicator is plugged in.	**A.** Connect desired Laser Applicator to the system. **B.** If Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
133	Warning	Laser Applicator became unplugged while performing a laser treatment.	**A.** Connect desired Laser Applicator to the system. **B.** If Laser Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
134	Warning	Entered incorrect laser PIN.	**A.** Enter correct Laser PIN number. **B.** If problem continues, send Laser Module to Factory for service.

ERROR CODES (CONTINUED)

Code Number	Type Message	Probable Cause	Possible Remedies
135	Warning	Control Board Software upgrade warning.	Upgrade Control Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
136	Warning	Stim Board Main Software upgrade warning.	Upgrade Stim Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
137	Warning	Stim Board Main Software upgrade warning.	Upgrade Stim Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
138	Warning	Ultrasound Board Software upgrade warning.	Upgrade Ultrasound Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
139	Warning	Laser Board Software upgrade warning.	Upgrade Laser Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
140	Warning	MMC Software upgrade warning.	Upgrade MMC Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
141	Warning	Battery Module Software upgrade warning.	Upgrade Battery Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
142	Warning	A Laser Protocol was selected, but no Laser Module is installed on system.	Install Laser Module to Therapy System. Refer to Laser Module User Manual for installation instructions.
143	Warning	A Laser Protocol was selected, but no Laser Applicator connected to system.	**A.** Connect proper Laser Applicator to the system. **B.** If Laser Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.

ERROR CODES (CONTINUED)

Code Number	Type Message	Probable Cause	Possible Remedies
144	Warning	Wrong Laser Applicator connected to system for the protocol selected.	**A.** Connect correct Laser Applicator to the system. **B.** If Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
145	Warning	Patient Data Card button on Home screen was pressed with no Patient Data Card installed into system port and no treatment currently being performed.	Properly insert a Patient Data Card, set up and perform the treatment and save data to Patient Data Card.

⚠ WARNING

In the event that an Error message or Warning appears beginning with a 2 or 3, immediately stop all use of the system and contact the dealer or Chattanooga Group for service. Errors and Warnings in these categories indicate an internal problem with the system that must be tested by Chattanooga Group or a Field Service Technician certified by Chattanooga Group before any further operation or use of the system

Use of a system that indicates an Error or Warning in these categories may pose a risk of injury to the patient, user, or extensive internal damage to the system.

REPLACEMENT ACCESSORIES

GENERAL INFORMATION

The following provides the users of the Vectra Genisys Therapy System the necessary information to order the replacement accessories most commonly used with the System. This list of replacement accessories are designed for use with the Vectra Genisys Therapy System. When ordering, provide the respective part number, description, and quantity desired.

PART NUMBER	DESCRIPTION
2767	Battery Module
2781	Channel 3/4 Electrotherapy Module
2771	sEMG Module (Factory Installed on System)
2775	Therapy System Cart
2768	Patient Data Management System
27465	Patient Data Card (Pack of 25)
27167	sEMG Data Card (1 each)
27469	Patient Interrupt Switch (Channel 1 & 2) [26 AWG, 68.89 in (174.143 cm), Shielded]
27470	Patient Interrupt Switch (Channel 3 & 4) [26 AWG, 68.89 in (174.143 cm), Shielded]
27321	sEMG Lead Wire- Channel 1 [24/28 AWG, 98.43 in (250.012 cm), Unshielded]
27322	sEMG Lead Wire- Channel 2 [24/28 AWG, 98.43 in (250.012 cm), Unshielded]
27323	sEMG Lead Wire- Channel 3 [24/28 AWG, 98.43 in (250.012 cm), Unshielded]
27324	sEMG Lead Wire- Channel 4 [24/28 AWG, 98.43 in (250.012 cm), Unshielded]
27312	Electrotherapy Lead Wire- Channel 1 [16/18 AWG, 98.43 in (250.012 cm), Unshielded]
27313	Electrotherapy Lead Wire- Channel 2 [16/18 AWG, 98.43 in (250.012 cm), Unshielded]
27314	Electrotherapy Lead Wire- Channel 3 [16/18 AWG, 98.43 in (250.012 cm), Unshielded]
27315	Electrotherapy Lead Wire- Channel 4 [16/18 AWG, 98.43 in (250.012 cm), Unshielded]

PART NUMBER	DESCRIPTION
27508	Operator Remote- Channels 1 & 2 [26 AWG, 68.89 in (174.143 cm), Shielded]
27079	Operator Remote- Channels 3 & 4 [26 AWG, 68.89 in (174.143 cm), Shielded]
27333	1 cm^2 Ultrasound Applicator [26 AWG, 68.89 in (174.143 cm), Shielded]
27334	2 cm^2 Ultrasound Applicator [26 AWG, 68.89 in (174.143 cm), Shielded]
27335	5 cm^2 Ultrasound Applicator (Standard) [26 AWG, 68.89 in (174.143 cm), Shielded]
27336	10 cm^2 Ultrasound Applicator [26 AWG, 68.89 in (174.143 cm), Shielded]
27468	Carrying Bag
79977	High Voltage Pulsed Current (HVPC) Probe Kit
79976	Microcurrent Probe Kit
1264	Nylatex® Wrap- 3 pack, 2.5 in X 24 in (6 cm X 61 cm)
72852	Black Rubber Carbon Electrodes- 3 in (8 cm) Round
72853	Red Rubber Carbon Electrodes- 3 in (8 cm) Round
42044	DURA-STICK™ II 2.75 in (7 cm) Electrodes (40/case)
4248	Conductor™ Ultrasound Gel- 9 oz Bottle (24/case)
42061	DURA-STICK™ II 1.25 in (3 cm) Round Electrodes (40/Case)

CARING FOR THE THERAPY SYSTEM

Cleaning the Therapy System

With the system disconnected from the power source, clean the system with a clean, lint free cloth moistened with water and mild antibacterial soap. If a more sterile cleaning is needed, use a cloth moistened with an antimicrobial cleaner.

Do not submerse the system in liquids. Should the unit accidentally become submersed, contact the dealer or Chattanooga Group Service Department immediately. Do not attempt to use a system that has been wet inside until inspected and tested by a Service Technician Certified by Chattanooga Group.

Do not allow liquids to enter the ventilation holes in the optional modules. This could permanently damage the modules.

Cleaning the Lens

Clean the Therapy System Screen Lens using NOVUS® Polish System. Contact Novus at: novuspolish.com

Cleaning Reusable Electrodes

Use distilled water on a damp cloth to wipe the surface regularly after usage.

CALIBRATION REQUIREMENTS

Calibrating Ultrasound Applicators

Annual factory calibration is required for all Ultrasound Applicators. Only the Applicators should be sent to the factory or a Field Technician certified by Chattanooga Group for this procedure.

NOTE: The unit was calibrated during the manufacturing process and is ready to be placed into service upon delivery.

Council Directive 2002/96/EC concerning Waste Electrical and Electronic (WEEE). Indicates a requirement not to dispose of WEEE as municipal waste. Contact your local distributor for information regarding disposal of the unit and accessories.

FACTORY SERVICE

When the Vectra Genisys Therapy System or any of the accessory modules require factory service, contact the selling dealer or Chattanooga Group Service Department.

All Therapy System and accessory modules returned to the factory for service must include the following:

WARRANTY REPAIR/OUT OF WARRANTY REPAIR

1. Written statement containing the following information:
   - RA Number- Obtain from Factory
   - Therapy System or Module Model Number
   - Therapy System or Module Serial Number
   - Contact Person with Phone and Fax Numbers
   - Billing Address (for Out of Warranty Repair)
   - Shipping Address (Where to Ship Unit after Repair)
   - Detailed Description of Problem or Symptoms
2. Copy of original invoice issued at purchase of the Therapy System or Module.
3. Ship the unit to address specified by an authorized service technician.

Service to these units should be performed only by Service Technicians certified by Chattanooga Group.

Ultrasound Applicators require annual calibration, from the date placed in service, by the Factory or a Service Technician certified by Chattanooga Group.

Through the purchase of a Service Manual, Chattanooga Group has made available circuit diagrams, component part lists, descriptors, or other information which will assist authorized technical personnel to repair those parts of the equipment which are designated by Chattanooga Group as repairable.

NOVUS is the Registered Trademark of NOVUS Inc.

WARRANTY

Chattanooga Group, a division of Encore Medical, L.P. ("Company") warrants that the Vectra Genisys Therapy System, Channel 3/4 Electrotherapy Module, Laser Module, and sEMG Module ("Products") are free of defects in material and workmanship. This warranty shall remain in effect for two years (24 months) from the date of original consumer purchase. If these Products fail to function during the two year warranty period due to a defect in material or workmanship, at the Company's Option, Company or the selling dealer will repair or replace the respective Product without charge within a period of thirty (30) days from the date on which the Product is returned to the Company or the dealer.

All repairs to the Product must be performed by a service center certified by the Company. Any modifications or repairs performed by unauthorized centers or groups will void this warranty.

The warranty period for certain accessories is 90 days. Accessories consist of Lead Wires, Operator Remote, Electrodes, Patient Data Cards, sEMG Data Cards and Nylatex®.

The warranty period for the Therapy System Cart, Battery Module, Laser Applicators and Ultrasound Applicators is one year (12 Months).

To participate in warranty coverage, this Product's warranty registration card (included with Product) must be filled out and returned to the Company by the original owner within ten (10) business days of purchase.

This Warranty Does Not Cover:

- Replacement parts or labor furnished by anyone other than the Company, the selling dealer or a certified Company service technician.
- Defects or damage caused by labor furnished by someone other than Company, the selling dealer or a certified Company service technician.
- Any malfunction or failure in the Product caused by product misuse, including, but not limited to, the failure to provide reasonable and required maintenance or any use that is inconsistent with the Product User's Manual.

COMPANY SHALL NOT BE LIABLE IN ANY EVENT FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

To Obtain Service From Company or the selling dealer under this warranty:

1. A written claim must be made within the warranty period to the Company or the selling dealer. Written claims made to the Company should be sent to:

   4717 Adams Road
   P.O. Box 489
   Hixson, TN 37343 USA
   Telephone: 1-423-870-2281 or 1-800-592-7329
   Canada: 1-800-366-6661
   Facsimile: 1-423-875-5497
   and

2. The Product must be returned to the Company or the selling dealer by the owner.

This warranty gives you specific legal rights and you may also have other rights which vary from location to location.

The Company does not authorize any person or representative to create for it any other obligation or liability in connection with the sale of the Product.

Any representative or agreement not contained in the warranty shall be void and of no effect.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Moving Rehabilitation Forward™

ISO 13485 CERTIFIED

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